ekeyUSA

PRODUCT CATALOG
2013

Your **Finger**

Is the **Key!**

Table of Contents

1 Introduction

The ekey fingerprint access control system is weather resistant that is suitable for indoor or outdoor environment and is designed for controlling:

- The opening and closing of doors equipped with electrical strikes, magnetic locks, or any electrified locking mechanism;
- The arming and disarming of the burglary security systems configured with momentary key-switch;
- The opening and closing of the garage or gate doors operated by an electrical opener;
- The activation and deactivation of any device that is operated by an on/off switch;
- The authentication or identification of users in physical or logical any application.

The ekey fingerprint system is not a lock; rather it is a biometric identification system that it is used to convey its authentication results through either physical or logically interfaces.

- Physical interface using ekey control units with dry contact closures for controlling electrical strike, magnetic lock, electrified lock, solenoid, or any electrified system or any device that can be controlled by on/off switch. ekey control unit allow the same user to perform different access functions by using different fingers to activate different relays. For example:
    1. First Finger activates relay #1 to control front door electric strike;
    2. Second Finger activates relay#2 to arm / disarm the security System;
    3. Third Finger activates relay#3 to set the security System in a panic situation.
- Logical interface such as Wiegand, UDP, HTTP, ODBC, or pain text file using outbound data connection from ekey (one way communication only) to any non-ekey system

The ekeyUSA product line consists of the followings families:

ekey home   basic standalone access control solution using one scanner 99 fingerprints

ekey multi   extended standalone access control solution using up to 4 scanners total 99 fingerprints

ekey net   advance networkable access control solution unlimited scanners each scanner could be 40, 200, or 2000 fingerprints.

Bio-entry   integrated ekey access control system (home, multi, or net) with an audio-visual entry system.

Next is a comparison table between ekey home, ekey multi, and ekey net.

	DESCRIPTION	ekey home	ekey multi	ekey net
FEATURES	Weather Resistant	Yes		
	Scanner Type	Surface Wall-mount or Flush integra		
	Number of fingerprint Templates	99 per scanner	99 shared by up to 4 scanners	40, 200, or 2000 per scanner
	Remote Management	-	-	Yes (WAN requires VPN)
	Web Access Web Access (Mobile Phone)	-	-	Web access via a standard browser (e.g. IE, Firefox, etc.),
	Customized Access Rights	-	-	For each user by scanner, calendar, time schedule
	RFID Support	-	-	RFID (13,56MHZ) ISO15693, 14443A/B
	Logging	-	yes on screen	yes
INTERFACE	UDP (Crestron, Savant, Control 4,etc.)	Yes		
	Relay switch type	dry (not energized)		
	Number of Relays	1, 2 or 3	4	1,2,3 or 4 per scanner
	Wiegand Support	-	-	26-bit, Pyramid 39-bit, or User-defined formats
	ODBC interface, CSV, web	-	-	Yes
	SDK	-	-	SDK to interact and manipulate ekey net database
FUNCTIONALITY	Access Control Level	Basic	Extended	Advance
	Authentication level	single authentication only		Dual authentication (two Fingers or finger + RFID)
	Authentication Location	Scanner		Scanner or Server
	Fingerprint enrolment	Same Access Scanner		Same Access Scanner or dedicated USB Scanner
	Computer & Network	n/a		Microsoft windows
	Access Control Level	Basic	Extended	Advance
	System Management	Control unit (push buttons and or LCD)		Computer Program (GUI)
	multi door control	Each door is managed independently; No centralized management; Fingerprints are enrolled on the same access scanner for each door	Up to 4 doors can be managed by the same control unit. Fingerprints are enrolled once and templates are distributed	All doors are managed by centralized program; Fingerprint are enrolled once on the computer using USB enrollment scanner; Computer program distributes fingerprints over the LAN to each door scanner based on access rights

ekey home - Basic standalone access control solution

- ✓ one control unit and one fingerprint scanner
- ✓ 1, 2 or 3 relay outputs
- ✓ Scanner capacity 99 fingerprints templates
- ✓ Simple installation and operation via the control unit

ekey multi - Extended standalone access control solution
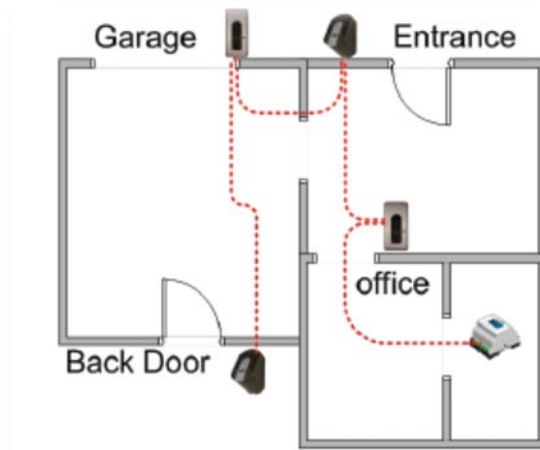
- ✓ one control unit and up to 4 fingerprint scanner
- ✓ 4 relay outputs
- ✓ System capacity 99 fingerprints automatically shared and distributed to all scanners
- ✓ Simple installation and operation via the control unit
- ✓ Access schedules, access log, user names assignment, etc.

ekey net - Advance networkable access control solution
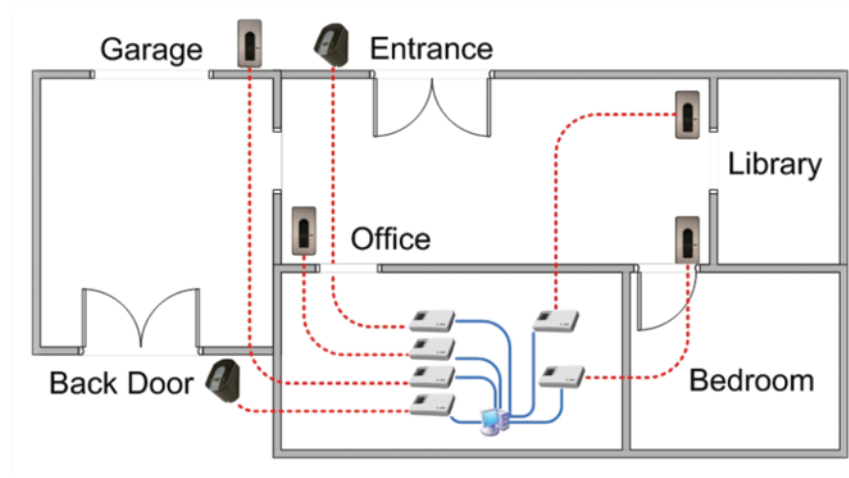
- ✓ Unlimited control units and scanners
- ✓ Each scanners capacity 40, 200, or 2000 fingerprints.
- ✓ client/server software
- ✓ Centralized terminal, and user management and authorization
- ✓ Control through relays, Wiegand, UDP, ODBC, etc.
- ✓ Extensive set of functions and feature

2 ekey integra enhanced Fingerprint Technology

integra enhanced fingerprint scanner is equipped with Radio Frequency (RF) Scanner manufactured by AuthenTec.

Human finger skin consists of multiple layers. First layer is the Outer Dead and dry Skin Layer directly below the skin Surface that has poor electrical conductivity properties. Second layer is the Live Skin Cell Layer that has good electrical conductivity properties.

AuthenTec's semiconductor-based sensors are based on radio frequency (RF) technology that detects an image of the fingerprint ridge and valley pattern beneath the surface of the skin. This lower, live layer has a better electrical conductivity than the dead skin layer. It is this principle on which the RF sensor works.

The RF sensor is based on the physical principle of electric wave transmission from transmitting antennas (ridges, valley) to a receiving antenna (sensor). The signal is then evaluated on the latter. The distance between transmitting antennas and receiving antenna is used to generate a fingerprint image.
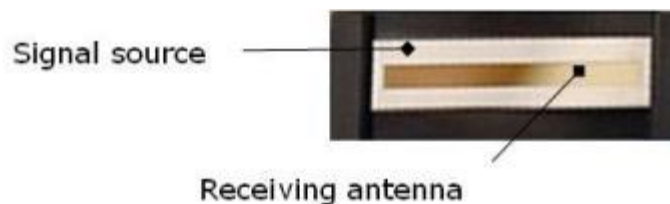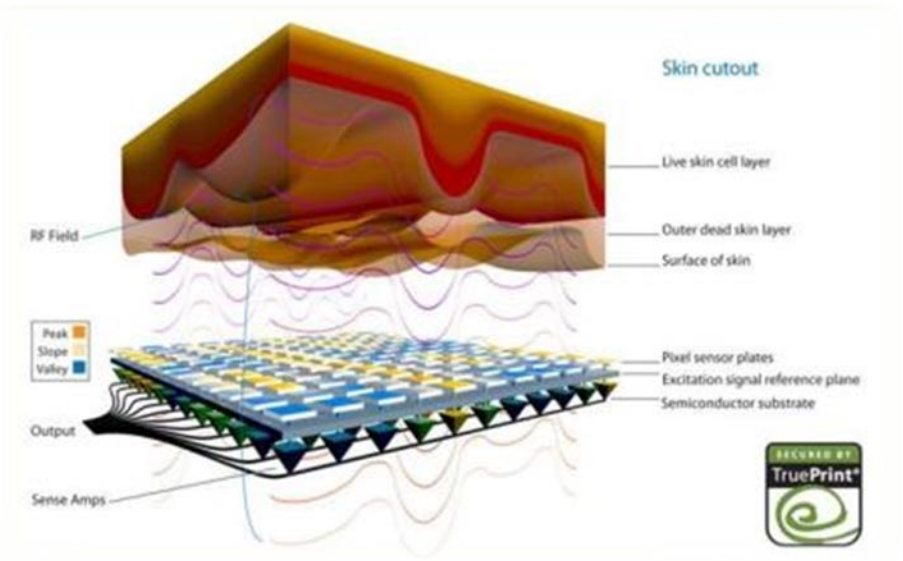
3   ekey home Fingerprint Access System

- Basic self-contained standalone weather resistant fingerprint access control system.
- Suitable for simple access applications with unrestricted access right for enrolled and authorized users
- No computer is needed for enrolment enrolling fingerprints or managing the system; In case of power failure the system retains its information. Fingerprint templates are not lost
- No logging or schedules
- Basic physical interface through dry contact closures relay (not energized) that it could be used to control electrical strike, magnetic lock, electrified lock, or any electrified system or device that can be controlled by on/off switch
- Weather resistant suitable for indoor or outdoor installation and usage
- Scanner capacity is 99 fingerprint templates with 1-to-many matching algorithm
- ekey home system is shipped as a set that consists of one or more of the below items depending on the ordered configuration
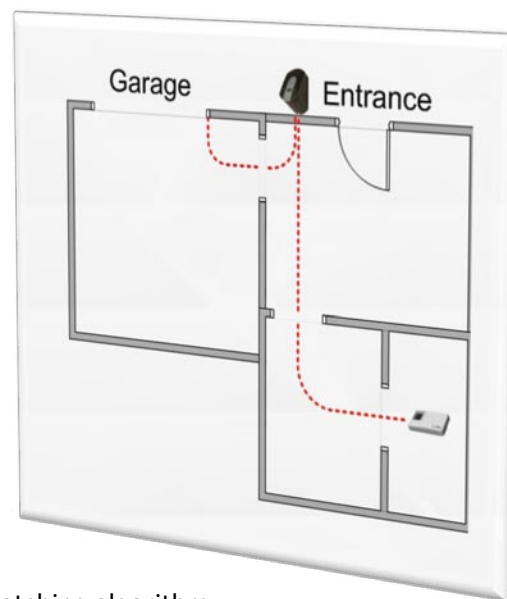
ekey home COMPONENTS	
Figure 1 Wall mount Scanner	**Figure 2 integra enhanced fingerprint Scanner**
Figure 3 Wall mount Control (1 or 3 relay)	**Figure 4 integra (2 relay)**
Figure 5 Din Rail Mount Control (1 or 2 relay)	**Figure 6 Plugged-in Power Adapter**
For Accessories & Options refer to the following sections ekey Fingerprint Scanner – Error! Reference source not found.	

3.1 ekey home Access Scanner – Product Specification

PRODUCT SPECIFICATION	DETAILS	WALL MOUNT SCANNER	INTEGRA ENHANCED SCANNER
	ekey home Product Image		
	Biometric Features	False Acceptance Rate (FAR) = 1.0×10^{-7} False Rejection Rate (FRR) = 1.5×10^{-2}	
	Sensor Technology	radio frequency (RF) sensor (AuthenTec's)	
	User Management & Programming	Through Control Unit	
	Security	Managed through encrypted and bounded RS485 bus with control unit. No direct access is possible	
	Operating Mode	Standalone no computer is needed	
	Size Of Memory	99 fingerprints templates	
	Recognition Speed	1 – 4 seconds	
	Type Of Memory	Flash, non-volatile (fingerprints templates are retained after power failure)	
	Color	Silver-metallic	Body is Black with top cover in stainless steel/white /gold
	Product Warranty	24 month limited against product failure & manufacturing defects	
	Software Update	Operating software can be updated via USB service adapter	
	Scanner Usage	Fingerprint scanning for enrolment and access	
	Accessories & Options	Refer to ekey Scanner Options at the end	

3.2 ekey home Access Scanner – Installation Specification

	DETAILS	WALL MOUNT SCANNER	INTEGRA ENHANCED SCANNER
INSTALLATION SPECIFICATION	**Supply Voltage**	9-12VAC or 9-12VDC	8-24VAC or 8-24VDC
	Current draw – Idle mode (12VDC)		85mA
	Current draw – Matching mode (12VDC)		90mA
	Power Input (idle & matching)	2W	~1W
	Dimensions (WxHxD):	1 $^{3/4}$ x 3 $^{3/16}$ x 2 $^{3/8}$ in (45x81.55x60.2mm)	Housing 1 $^{3/4}$ x 3 $^{1/2}$ x $^{3/4}$ in (43.6 x 89 x 17.3 mm)
	Storage & Operating Temp.	-4° F to -167° F (-20° C up to 75° C)	-13° F to -158° F (-25° C up to 70° C)
	Humidity	Max. 95% relative, non condensing	Max. 95% relative, non condensing
	Protection Class	IP44	International Protection (IP54)
	Installation Height	at least 53 inches (135 cm) from scanner lower edge	At least 62 inches (155 cm) from scanner lower edge
	Mounting Type	Surface mount	Flush mount
	Control Cable Tip	4-pole push terminal RM 3.5	RJ45 Short body - only 4 pins are used (Cable supplied by ekey – type A;)
	Pin Assignment	Pin 1&2 data; Pin 3&4 power	Pin 4&5 data; Pin 7&8 power; Pin 1,2,3, & 6 not used
	Control Cable Wiring	CAT5 up to 300ft; 16AWG for longer runs; Max cable length 1000ft	

3.2.1 ekey home Surface Scanner (AuthenTec sensor) - Measurements & Connection

1 3/4 x 3 3/16 x 2 3/8in
(45x81.55x60.2mm)

45,0mm

81,55mm

60,2mm

Clamp #:	Signal description	Recommended cable color (ekey standard)
1	RS485 (Clamp 1)	green
2	RS485 (Clamp 2)	yellow
3	Power supply (Clamp 3)	brown
4	Power supply (Clamp 4)	white
Optionally only for model **ekey net FS REL**		
5	REL NO potential free	-
6	REL NO potential free	-
7	Input	-
8	Input	-

3.2.2 ekey home integra Enhanced Scanner Measurements & Connection

Finger scanner dimensions
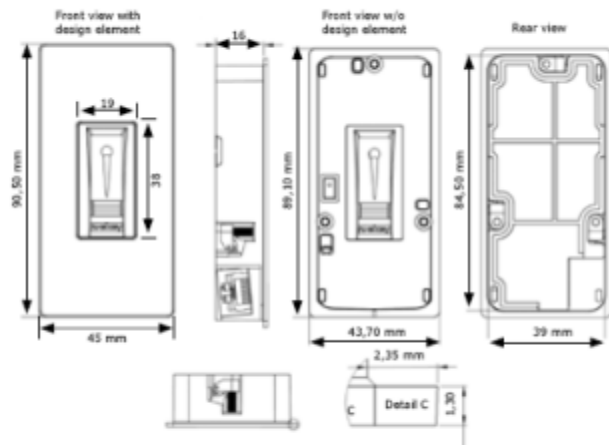
Finger scanner milling dimensions
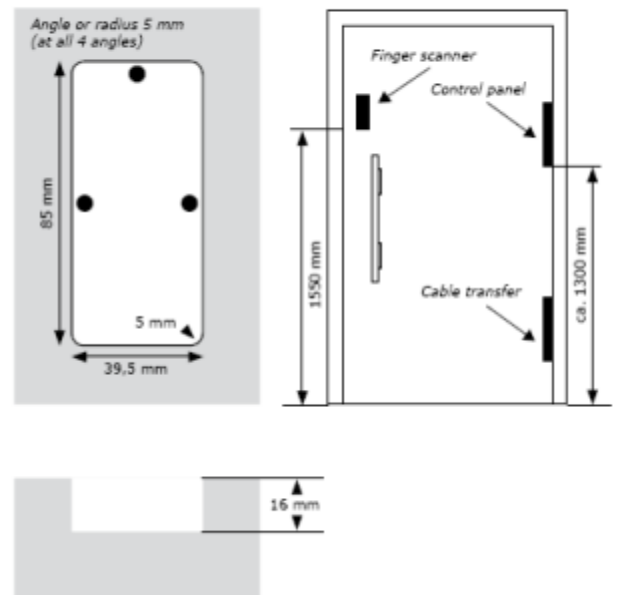
ekey home FS IN
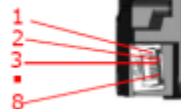
			LiYY (TypA)
4	RS485 (Clamp 1)		green
5	RS485 (Clamp 2)		yellow
7	Power supply (Clamp 3)	8-24VDC or 8-24VAC	brown
8	Power supply (Clamp 4)		white

3.3 ekey home Control Unit – Product Specification

DETAILS		WALL MOUNT CONTROL UNIT	INTEGRA CONTROL UNIT	DIN RAIL MOUNT
PRODUCT SPECIFICATION	ekey home control units			
	Colour	White	Stainless steel	White
	Display	2-digit seven-segment display		LCD 106 x 56 Pixels, 7 lines/21 characters + 2/4 status-LEDs
	Operation	4 buttons for parameter setting		
	Product warranty	24 month limited against product failure & manufacturing defects		
	Options & Accessories	Refer to ekey Scanner Options at the end		
	Relay switching capacity	250VAC/5A resistive Or 30VDC/5A	42VAC or VDC / 2A resistive	
	Security	Individually definable code to secure the menu on the control panel		
	Number of relays	1 or 3 dry relay [i]	2 relays [ii]	1 or 2 dry relays
	Usage	User input interface for enrolling fingerprints & assign relay, deleting users, and system management		

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[i] Wall mount control unit has 3 relays each relay is Dry Contact (Form C) switch – consist of Common (C), Normal Open (NO), Normal Close (NC). Each relay has the capacity to switch up to 250VAC/5A resistive or 30VDC/5A resistive
[ii] Integra control unit has two output relays (solid state). Each has the capacity to switch up to 42VDC or VAC / 2A. Each is configured by jumper. Relay #1 is Single Pole Single Throw (SPST) is either dry contact (not energized) or active contact (energized) where the power that flow through the relay is provided by the ekey integra control unit. Relay #2 is Dry Contact either Normal Open (NO) or Normal Closed (NC) with ekey control the circuit only

3.4 ekey home Control Unit – Installation Specification

	DETAILS	WALL MOUNT CONTROL UNIT	INTEGRA CONTROL UNIT	DIN RAIL MOUNT
INSTALLATION SPECIFICATION	Dimensions (WxHxD):	$7^{1/16}$ x $4^{5/16}$ x $1^{5/8}$ in (180 x 110 x 41mm)	11/16, 13/16, or $1^{3/4}$ x $10^{11/16}$ x $1^{1/8}$ in (18, 20 or 24 x 272 x 29mm) round/square edges	$2^{3/4}$ x $3^{3/8}$ x $2^{1/8}$ in (70 (4DU) x 86 x 54 mm)
	Humidity	Max. 95% relatively	Max. 95% relatively, non condensing	
	Installation	Surface mount	Flush mount	DIN rail
	Power Consumption	1W	0.5W	1W
	Scanner Cable Tip	Open end – screw in	4pin CP35 (cable supplied – type A)	Open end – screw in
	Power Cable Tip	Open end – push in	8pin CP35 (cable supplied – type B)	Open end – push in
	Protection class	IP41 – for indoor	IP40 built-in	IP20 – for indoor
	Storage & Operating temperature	-4° F to + 158° F (-20° C to +70° C	-40° F to + 185° F (-40°C to +85°C)	-4° F to + 158° F (-20° C up to 70° C)
	Supply voltage	9-12VAC or 9-12VDC	8-24VAC or 8-30VDC	8-24 VAC/VDC

3.4.1 ekey home Control Unit Wiring Diagram Layout

			J-Y(ST)Y
1		RS485 (Clamp 1)	green
2		RS485 (Clamp 2)	white
CH1	C	Relay 1 Common	
	NO	Relay 1 Normally open	
	NC	Relay 1 Normally close	
CH2[1]	C	Relay 2 Common	
	NO	Relay 2 Normally close	
	NC	Relay 2 Normally open	
CH3[1]	C	Relay 3 Common	
	NO	Relay 3 Normally open	
	NC	Relay 3 Normally close	
3		Power supply FS (Clamp 3)	red
4		Power supply FS (Clamp 4)	blue
9VAC	A	+Vcc	9-12VDC or 9-12VAC
9VAC	B	-VCC	

[1] Only for ekey home 3 CP WM
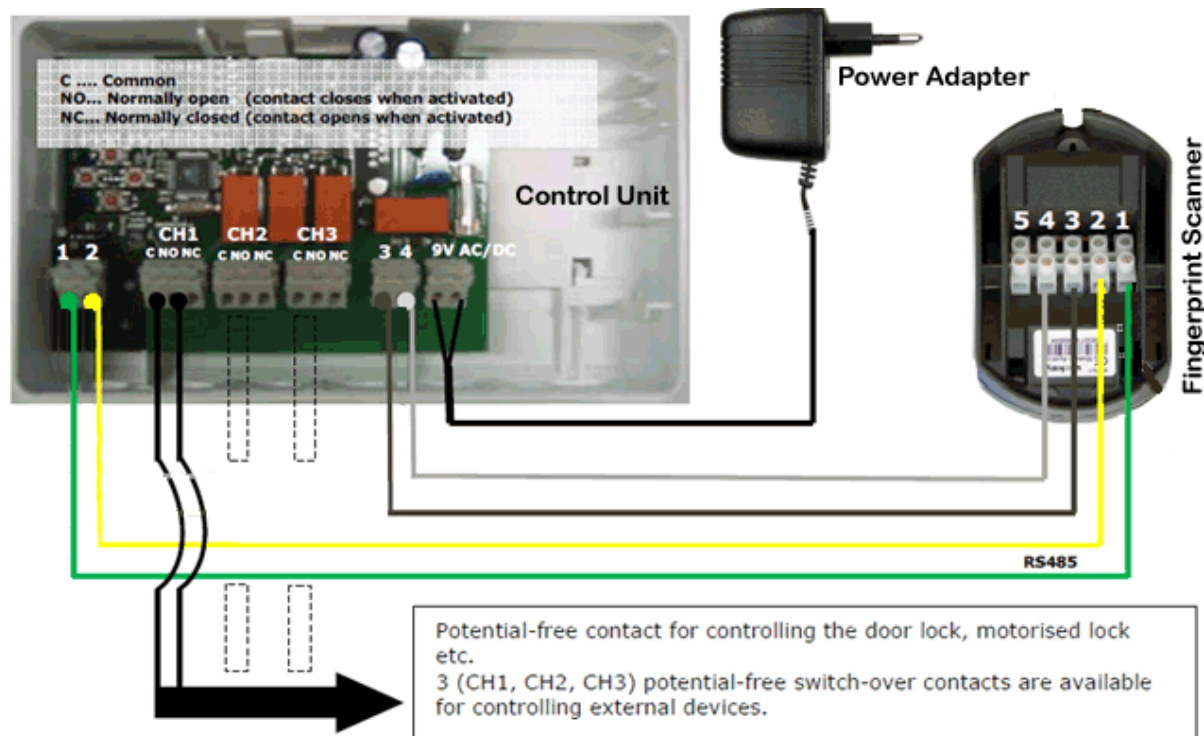
Clamp	Function
1	RS485 data bus (Green color wire in cable A for the integra scanner)
2	RS485 data bus (Yellow color wire in cable A for the integra scanner)
Channel 1	Dry contact (Form C) switch #1 – Form C Relay Common (C), Normal Open (NO), Normal Close (NC)
Channel 2	Dry contact switch #2 – Common (C), Normal Open (NO), Normal Close (NC)
Channel 3	Dry contact switch #3 – Common (C), Normal Open (NO), Normal Close (NC)
3	Power supply for the scanner (Brown color wire in cable A for the integra scanner)
4	Power supply for the scanner (White color wire in cable A for the integra scanner)
9VAC	Main Power supply for the control unit

Dry contact (not energized) means no voltage is provide by ekey system on the relay. Form C contacts are also called changeover contacts that have three contacts as follows:

1. (C) Common = common leg of the circuit
2. (NO) Normal Open = default relay is open meaning the circuit is open not complete; relay will close to complete the circuit when a valid fingerprint match is found. For example, this option is used when controlling door with electrical strike in Fail-Secure mode. In this scenario the door is closed when the lock has no power. When a valid fingerprint match is found, the relay is closed causing the lock to energized leading to the door to set open.
3. (NC) Normal Close = default relay is closed meaning the circuit is closed and complete; relay will open to break the circuit when a valid fingerprint match is found. For example, this option is used when controlling door with Magnetic Lock or electrical strike in Fail-Safe mode. In this scenario the lock requires power to magnetize and hold the door close. When a valid fingerprint match is found, the relay is opened causing the lock to lose its power and demagnetized leading the door to set open.

3.4.2 ekey home Dain Rail Mount Control Unit Wiring

ekey home 1 CP DRM

			J-Y(ST)Y
1	RS485 (Clamp 1)		green
2	RS485 (Clamp 2)		white
3	Power supply FS (Clamp 3)		red
4	Power supply FS (Clamp 4)		blue
5	+VCC	8-24VDC or	
6	-VCC	8-24VAC	
7	Relay 1 C (common)		
8	Relay 1 NO (normally open)		
9	Relay 1 NC (normally close)		
10	Input1		
11	Input1		
12	NC (not connected)		

Termination
Switch setting
BOTTOM
Bus termination = **on**
(factory setting)

Relay 1 potential-free change-over contact

Motor lock (door opener,…)

3.5 ekey home integra Control Unit Wiring Diagram Layout

X3 – fingerprint reader	PIN	Cable Type A color
RS485 (CLAMP 2)	1	yellow
RS485 (CLAMP 1)	2	green
Power supply for reader (CLAMP 3)	3	brown
Power supply for reader (CLAMP 4)	4	white

X6 – Relay 1 screw clamp	PIN	Cable Type C color
Power supply motor lock (+) (voltage via X1, Pin 6, white)	1	available
Power supply motor lock (-) (voltage via X1, Pin 5, brown)	2	available
Switching impulse (voltage X1, Pin 6, white, is triggered here via relay 1)	3	available

X1 - main supply	PIN	Cable Type B color
Switching input 1	1	blue
Switching input 2	2	grey
ekey net clamp 2	3	yellow
ekey net clamp 1	4	green
Power supply DC- or AC	5	brown
Power supply DC + or AC	6	white
Relay 2 C	7	pink
Relay 2 NO/NC – jumper setting	8	ret

3.5.1 ekey home integra Scanner & Integra Control Unit – Door Install

ekey integra scanner with its low profile is designed to be installed on the door its self as well as on the wall next to the door. Specifying ekey integra system to be installed on the door directly requires choosing several items as applies below.   This applies to all *ekey home, ekey multi, and ekey net*.

1. integra Scanner
2. Design Element
3. Integra control unit

4. Power Supply
5. Door Transfer Kit (optional but recommended)
6. Individual Cables (Lock, Scanner, & Control)
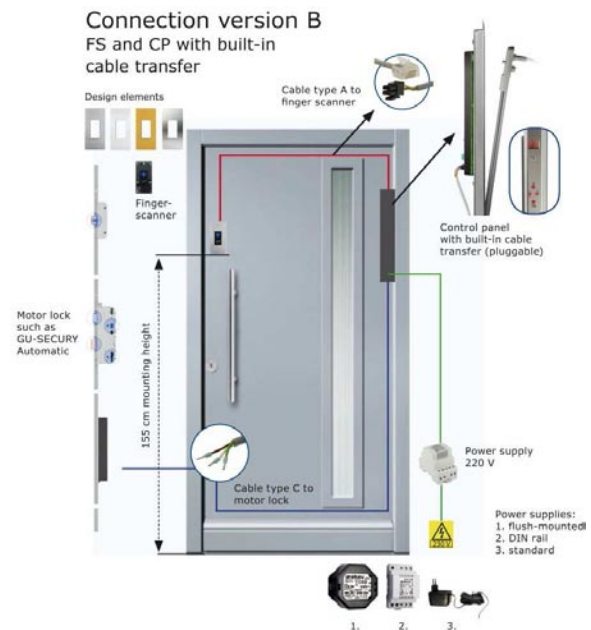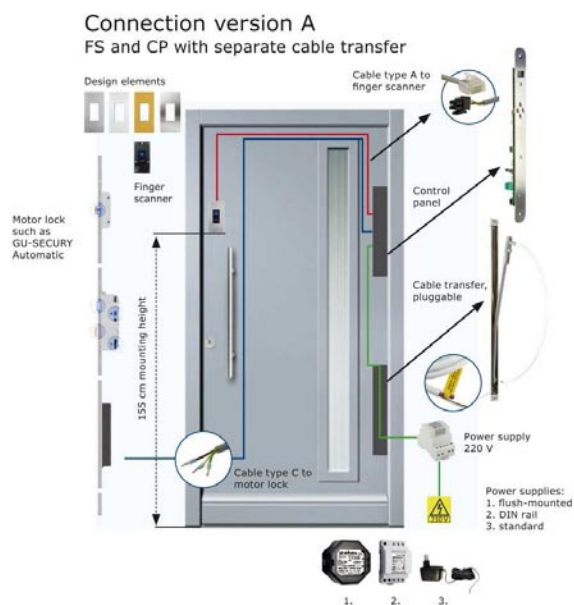
3.6 ekey home Set - Part Numbers

Choosing a particular ekey home system in 4 steps as follows:

a. Fingerprint Scanner
   i. Scanner type (surface wall mount or integra recess mount)
   ii. Scanner color as applicable (black, white, stainless steel, golden)
   iii. Scanner accessories (covers, trims, and mount brackets)
b. Control unit
   i. Control type (wall mount wall mount, din rail mount, or integra recess mount)
   ii. Control relays (1, 2 or 3 relay).

FINGERPRINT SCANNER DESCRIPTION

SCANNER TYPE, COLOR, & MOUNTING ACCESSORIES	Wall mount scanner (surface mount) • Available in silver-metallic • Mounts directly on the surface through special bracket (that is included) using two screws	

	integra scanner – legacy or enhanced (flush mount)
	• The scanner body itself is Anthracite (black) only.
	• Color Options & Mounting Accessories (ordered separately):
	  ❖ *Design Elements* – available in White, Brush Steel, or Golden colors (these snap over the scanner as decorative cover plate).
	  ❖ *Wall Trims* – available in Almond, Black, Brown, Ivory, or White (these are Decora Wall Plate with special cut to fit the integra scanner); also in stainless steel.
	  ❖ *Mounting Brackets* – integra scanner does not fit into wall mount single gang box. Special brackets are available depending on the substrate (drywall, studs rough-in, block, or directly into cut-in opening) where the integra scanner will be mounted.	

CONTROL UNIT DESCRIPTION

CONTROL UNIT TYPE & RELAYS	Wall mount control (surface mount) • 1 or 3 relays (dry contact with Common, normal open/normal close) • Mounts directly on the surface through din rail bracket (that is included) using two screws	
	LCD Control unit (Din Rail Mount) • 1 or 2 relays (dry contact with Common, normal open/normal close) • Mounts directly on din rail (not included) using two screws	
	Integra control (flush mount) • 1 or 2 relay, configurable to be either floating or single ended; normal open or normal closed (through jumper; or normally closed (through jumper) • Mounts recessed directly into the door leaf in round-cut or square-cut opening (panel frame is available in different sizes and edges. Call for details)	
	Plug-in Power Adapter **For further options, please refer to the Accessories Sections**	

ekey home system
*Basic access and self-contained standalone system (no computer)
suitable for single entry (one scanner only)*

Control Unit (1 Relay) & Fingerprint Scanner Package

common items included in the package
#100478 home control unit wall mount (1 relay, LED 2x7 segments display, white) (HS Code 84719000)
#800091 power adapter(input 110 VAC, output 9 VAC) (HS Code 85044090)

Package Part Number	Package Customization Wall-mount and integra Finerprint scanner (99 templates)
HO-WM2-1RS	#101405 home scanner 2.0 wall mount (99 templates, silver-metallic) (HS Code 84719000)
HO-IN2-1RS	#101326 home scanner 2.0 integra (99 templates, Rj45 short-body cable, stainless steel cover), requires accessories ordered separately (bracket & wall trim) (HS Code 84719000)

Control Unit (3 Relay) & Fingerprint Scanner Package

common items included in the package
#100479 home control unit wall mount (3 relays, LED 2x7 segments display, white) (HS Code 84719000)
*#800091 power adapter(input 110 VAC, output 9 VAC) (HS Code 85044090)*

Package Part Number	Package Customization Wall-mount and integra Finerprint scanner (99 templates)
HO-WM2-3RS	#101405 home scanner 2.0 wall mount (99 templates, silver-metallic) (HS Code 84719000)
HO-IN2-3RS	#101326 home scanner 2.0 integra (99 templates, Rj45 short-body cable, stainless steel cover), requires accessories ordered separately (bracket & wall trim) (HS Code 84719000)

ekey home - Individual Components

Package Part Number	Description - Fingerprint Scanner
101405	#101405 home scanner 2.0 wall mount (99 templates, silver-metallic) (HS Code 84719000)
101326	#101326 home scanner 2.0 integra (99 templates, Rj45 short-body cable, stainless steel cover), requires accessories ordered separately (bracket & wall trim) (HS Code 84719000)
	Description - Control Units & Converters
100478	#100478 home control unit wall mount (1 relay, LED 2x7 segments display, white) (HS Code 84719000)
100479	#100479 home control unit wall mount (3 relays, LED 2x7 segments display, white) (HS Code 84719000)
101162	#101162 home control unit DIN-rail mount with LCD (1 relay, LCD 7 lines/ 21 char display, 2/4 status-LEDs, white) (HS Code 84719000)
101312	#101312 home control unit DIN-rail mount with LCD (2 relay, LCD 7 lines/ 21 char display, 2/4 status-LEDs, white) (HS Code 84719000)
100460	#100460 UDP converter (Crestron) - for ekey home only (HS Code 84733080)

4 ekey multi Fingerprint Access System

- Extended standalone weather resistant fingerprint access control system.
- Suitable for small application with up to 4 entry points
- One control unit can manage up to 4 fingerprint scanners each scanner can control any or all of the 4 relay outputs
- System capacity is 99 fingerprints automatically shared and distributed to all scanners
- User name text entering
- User deactivation of deletion option
- 3 time schedule (always 24/7 no restrictions, schedule A and schedule B with time restriction)
- Access log viewable on the control unit LCD only.
- Holiday calendar to restrict access during defined periods application for users assigned to schedule A or B. excluding the always schedule users
- No computer is needed for enrolment enrolling fingerprints or managing the system; In case of power failure the system retains its information. Fingerprint templates are not lost
- Schedules
- Simple installation and operation via the control unit with LCD
- Basic physical interface through dry contact closures relay (not energized) that it could be used to control electrical strike, magnetic lock, electrified lock, or any electrified system or device that can be controlled by on/off switch
- Weather resistant suitable for indoor or outdoor installation and usage
- Scanner capacity is 99 fingerprint templates with 1-to-many matching algorithm
- ekey home system is shipped as a set that consists of one or more of the below items depending on the ordered configuration
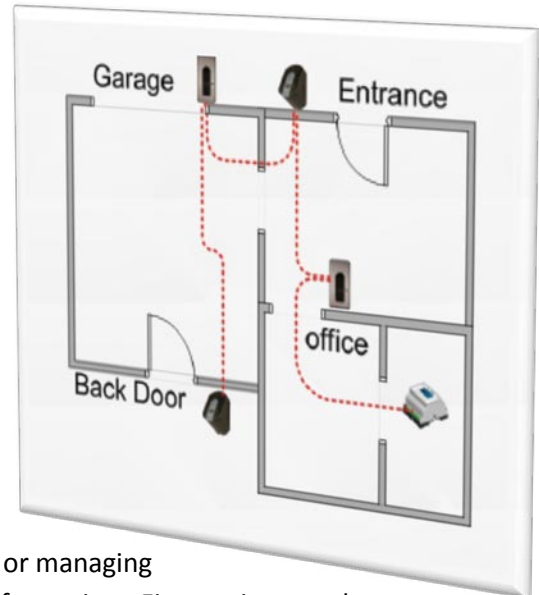
ekey multi COMPONENTS	
Figure 7 Wall mount Scanner	**Figure 8 integra enhanced fingerprint Scanner**
Figure 9 Din Rail Mount Control (1 or 2 relay)	**Figure 10 Plugged-in Power Adapter**
please refer to the Accessories Sections	

4.1 ekey multi Access Scanner – Product Specification

	DETAILS	WALL MOUNT SCANNER	INTEGRA ENHANCED SCANNER
PRODUCT SPECIFICATION	**ekey home Product Image**		
	Biometric Features	False Acceptance Rate (FAR) = 1.0×10^{-7} False Rejection Rate (FRR) = 1.5×10^{-2}	
	Sensor Technology	radio frequency (RF) sensor (AuthenTec's)	
	User Management & Programming	Through Control Unit	
	Security	Managed through encrypted and bounded RS485 bus with control unit. No direct access is possible	
	Operating Mode	Standalone no computer is needed	
	Size Of Memory	99 fingerprints templates	
	Recognition Speed	1 – 4 seconds	
	Type Of Memory	Flash, non-volatile (fingerprints templates are retained after power failure)	
	Color	Silver-metallic	Body is Black with top cover in stainless steel/white /gold
	Product Warranty	24 month limited against product failure & manufacturing defects	
	Software Update	Operating software can be updated via USB service adapter	
	Scanner Usage	Fingerprint scanning for enrolment and access	
	Accessories & Options	Refer to ekey Scanner Options at the end	

4.2 ekey multi Access Scanner – Installation Specification

DETAILS		WALL MOUNT SCANNER	INTEGRA ENHANCED SCANNER
INSTALLATION SPECIFICATION	**Supply Voltage**	9-12VAC or 9-12VDC	8-24VAC or 8-24VDC
	Current draw – Idle mode (12VDC)	85mA	
	Current draw – Matching mode (12VDC)	90mA	
	Power Input (idle & matching)	2W ~1W	
	Dimensions (WxHxD):	1 $^{3/4}$ x 3 $^{3/16}$ x 2 $^{3/8}$in (45x81.55x60.2mm)	Housing 1 $^{3/4}$ x 3 $^{1/2}$ x $^{3/4}$ in (43.6 x 89 x 17.3 mm)
	Storage & Operating Temp.	-4° F to -167° F (-20° C up to 75° C)	-13° F to -158° F (-25° C up to 70° C)
	Humidity	Max. 95% relative, non condensing	Max. 95% relative, non condensing
	Protection Class	International Protection (IP44)	International Protection (IP54)
	Installation Height	at least 53 inches (135 cm) from scanner lower edge	At least 62 inches (155 cm) from scanner lower edge
	Mounting Type	Wall mount	Flush mount
	Control Cable Tip	4-pole push terminal RM 3.5	RJ45 Short body - only 4 pins are used (Cable supplied by ekey – type A;)
	Pin Assignment	Pin 1&2 data; Pin 3&4 power	Pin 4&5 data; Pin 7&8 power; Pin 1,2,3, & 6 not used
	Control Cable Wiring	CAT5 up to 300ft; 16AWG for longer runs; Max cable length 1000ft	

4.2.1 ekey multi Surface Scanner (AuthenTec sensor) - Measurements & Connection

1 3/4 x 3 3/16 x 2 3/8in
(45x81.55x60.2mm)

Clamp #:	Signal description	Recommended cable color (ekey standard)
1	RS485 (Clamp 1)	green
2	RS485 (Clamp 2)	yellow
3	Power supply (Clamp 3)	brown
4	Power supply (Clamp 4)	white
Optionally only for model **ekey net FS REL**		
5	REL NO potential free	-
6	REL NO potential free	-
7	Input	-
8	Input	-

4.2.2 ekey multi integra Scanner Measurements & Connection

Finger scanner dimensions

Front view with design element

Front view w/o design element

Rear view

90,50 mm

19

38

45 mm

16

89,10 mm

43,70 mm

84,50 mm

39 mm

2,35 mm

Detail C

1,30

Finger scanner milling dimensions

Angle or radius 5 mm (at all 4 angles)

85 mm

5 mm

39,5 mm

Finger scanner

Control panel

Cable transfer

1550 mm

ca. 1300 mm

16 mm

ekey home FS IN

			LiYY (TypA)
4	RS485 (Clamp 1)		green
5	RS485 (Clamp 2)		yellow
7	Power supply (Clamp 3)	8-24VDC or 8-24VAC	brown
8	Power supply (Clamp 4)		white

4.3 ekey multi DRM Control Unit

DETAILS	MULTI CONTROL UNIT
PRODUCT SPECIFICATION	
ekey home control units	
Colour	White
Display	LCD 106 x 56 Pixels, 7 lines/21 characters + 2/4 status-LEDs
Operation	4 buttons for parameter setting
Product warranty	24 month limited against product failure & manufacturing defects
Options & Accessories	Refer to ekey Scanner Options at the end
Relay switching capacity	42VAC / VDC; 2A resistive
Security	Individually definable code to secure the menu on the control panel
Number of relays	4 output dry contact relays
Usage	User input interface for enrolling fingerprints & assign relay, deleting users, and system management
INSTALLATION	
Dimensions (WxHxD):	$2^{3/4}$ x $3^{3/8}$ x $2^{1/8}$ in (70 (4DU) x 86 x 54 mm)
Humidity	
Installation	DIN rail
Power Consumption	1W
Scanner Cable Tip	Open end – screw in
Power Cable Tip	Open end – push in
Protection class	IP20 – for indoor
Storage & Operating temperature	-4° F to + 158° F (-20° C up to 70° C)
Supply voltage	8-24 VAC/VDC

4.3.1 ekey multi DRM CONTROL UNIT WIRING DIAGRAM LAYOUT

			J-Y(ST)Y
1	RS485 (Clamp 1)		green
2	RS485 (Clamp 2)		white
3	Power supply FS (Clamp 3)		red
4	Power supply FS (Clamp 4)		blue
5	+VCC	8-24VDC or 8-24VAC	
6	-VCC		
7	Relay 1 C (common)		
8	Relay 1 NO (normally open)		
9	Relay 1 NC (normally close)		
10	Input1		
11	Input1		
12	NC (not connected)		
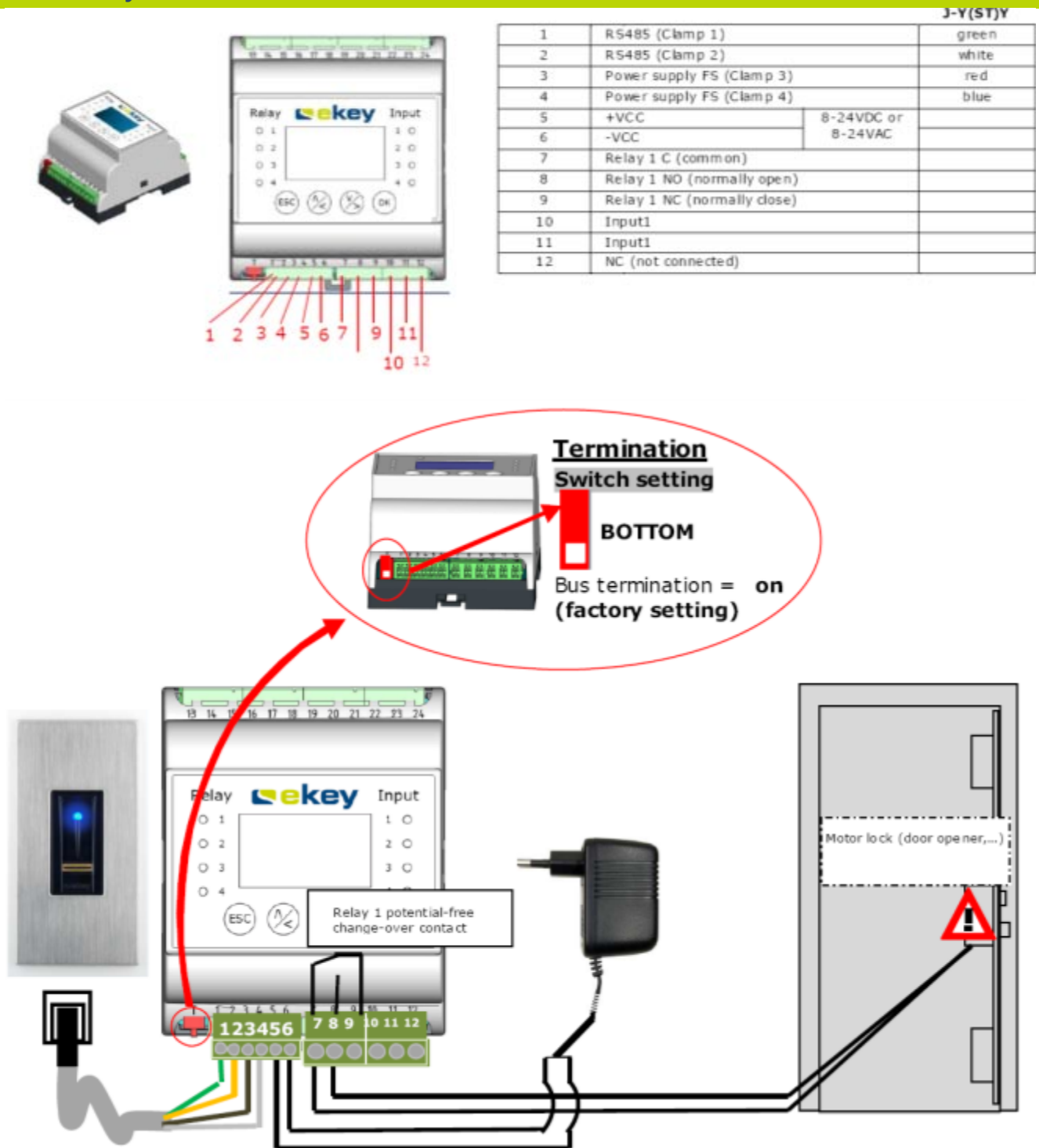
> ⚠ On the first and the last device in the RS485 bus, the termination/resistor has to be set to "ON".

**First device
in the bus (chain)**

3.4

L
N

Termination
Switch Position

BOTTOM = ON

Relay — ekey — Input

Safety
transformer,
protection class **II**
(SELV)

Rel 1

123456

**Devices
in the
middle of
the bus.**
Depending on the
configuration,
from 0 to 3 units
can be placed
here.

Termination
Switch Position

**LEFT =
OFF**

Termination
Switch Position

**BOTTOM =
OFF**

RJ45

ekey cable
Type A

4321

4321

Clamping
unit

RS485: Daisy Chain Bus
short runs CAT6
longer runs 18AWG
(max 1200ft end-to-end)
**No star shaped
wiring!**

Termination

Switch Position

**RIGHT =
ON**

**Last device
in the bus
(chain).**

4321

4.4 ekey multi Set - Part Number

Choosing a particular ekey multi system in is as simple as follows:

a. Fingerprint Scanner
    i. Scanner type (wall mount wall mount or integra recess mount)
    ii. Scanner color as applicable (black, white, stainless steel, golden)
    iii. Scanner accessories (covers, trims, and mount brackets)
b. Control unit only one module 4 relay DRM

| Item	Fingerprint Scanner Description	
Scanner Type, Color, & Mounting Accessories	Wall mount scanner (surface mount) • Available in silver-metallic • Mounts directly on the surface through special bracket (that is included) using two screws	
	integra enhanced scanner (flush mount) • The scanner body itself is Anthracite (black) only. • Color Options & Mounting Accessories (ordered separately): ❖ *Design Elements* – available in White, Brush Steel, or Golden colors (these snap over the scanner as decorative cover plate). ❖ *Wall Trims* – available in Almond, Black, Brown, Ivory, or White (these are Decora Wall Plate with special cut to fit the integra scanner); also in stainless steel. ❖ *Mounting Brackets* – integra scanner does not fit into wall mount single gang box. Special brackets are available depending on the substrate (drywall, studs rough-in, block, or directly into cut-in opening) where the integra scanner will be mounted.	
Control Unit type & relays	LCD Control unit (Din Rail Mount) • 4 output relays (dry contact with Common, normal open/normal close) • Mounts directly on din rail (not included) using two screws	
	Plug-in Power Adapter	

The ekey multi system consists of one fingerprint scanner (up to 3 addition scanners can be added to system by ordering them separately), one control unit, and one power adapter as detailed below.

ekey multi system
Medium access and self-contained standalone system (no computer) suitable for multi-entry (up to 4 scanners)

Control Unit (4 Relay & 4 Inputs) & Fingerprint Scanner Package

common items included in the package
#101163 multi control unit DIN-rail mount with LCD (4 relay, LCD 7 lines/ 21 char display, 8 status-LEDs, 4 inputs, white) (HS
#800091 power adapter(input 110 VAC, output 9 VAC) (HS Code 85044090)

Package Part Number	Package Customization - Wall-mount and integra Fingerprint Scanner (99 Templates Shared Among Max 4 Scanners on the Same System)
ML-WM2-4RL	#101405 home scanner 2.0 wall mount (99 templates, silver-metallic) (HS Code 84719000)
ML-IN2-4RL	#101326 home scanner 2.0 integra (99 templates, Rj45 short-body cable, stainless steel cover), requires accessories ordered separately (bracket & wall trim) (HS Code 84719000)

ekey multi - Individual Components

Package Part Number	Description - Fingerprint Scanner
101405	#101405 home scanner 2.0 wall mount (99 templates, silver-metallic) (HS Code 84719000)
101326	#101326 home scanner 2.0 integra (99 templates, Rj45 short-body cable, stainless steel cover), requires accessories ordered separately (bracket & wall trim) (HS Code 84719000)
	Description - Control Units & Converters
101163	#101163 multi control unit DIN-rail mount with LCD (4 relay, LCD 7 lines/ 21 char display, 8 status-LEDs, 4 inputs, white) (HS Code 84719000)
100460	#100460 UDP converter (Crestron) - for ekey home only (HS Code 84733080)

5 ekey net Fingerprint Access System

- ekey net is an advanced fingerprint access control system that consists of multiple fingerprint scanners all networked together over RS-485/LAN network and managed from a centralized application running on Windows platform.

- The system architecture is client/server that provides any local/remote computer on the LAN/WAN-VPN with GUI centralized management, administration, and access rules definition for any group of users, terminals, time schedules, and calendars.

- Each user is enrolled by swiping his/her finger using either USB scanner or any of the access scanners. The generated fingerprint template is stored at a central server and then distributed to each Scanner in the network based on access rights.

- Fingerprint identification and matching can be performed either locally at the access scanner or centrally at the server.

- System fingerprint capacity is measured at two levels: a) unlimited capacity at the server level as a common repository or database shared for the whole networked scanners; b) and the capacity per scanner which it could range between 40, 200, or 2000 fingerprint templates.

- Basic integration through dry contact switch that could control electrical strike, magnetic lock, electrified lock, or any electrified system or device that can be controlled by on/off switch

- Advance integration through Wiegand, UDP, ODBC, csv file, or web server

- Each ekey net system is shipped as a set that consists of one or more of the below items depending on the ordered configuration.
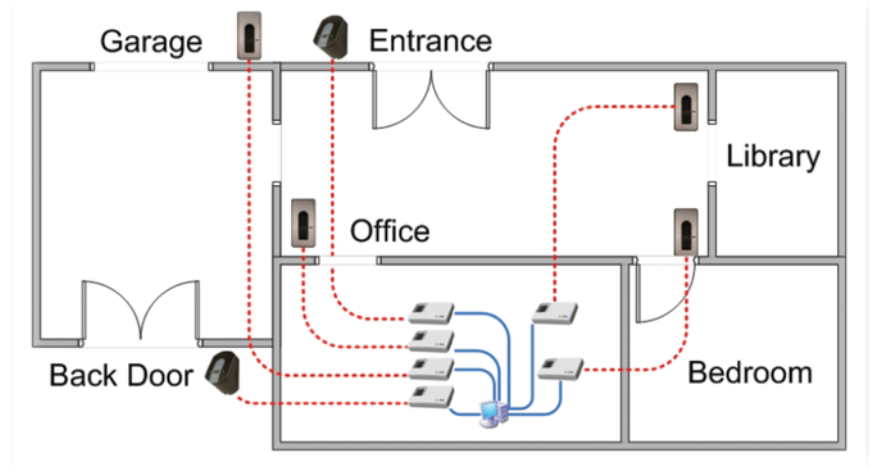
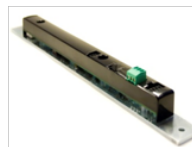| ekey net COMPONENETS		
Figure 11 Wall mount Scanner	**Figure 12 integra fingerprint Scanner**	**Figure 13 USB enrolment scanner (optional)**
Figure 14 Wall mount Control (3 relay)	**Figure 15 integra (2 relay)**	**Figure 16 Mini Control (1 Relay)**
Figure 17 Composite Control (extension module)	**Figure 18 Converter LAN**	**Figure 19 Converter Wiegand**
Figure 20 Plug-in Power Adapter	**For Accessories & Options refer to the ekey Fingerprint Scanner – &** Error! Reference source not found. **sections**	

5.1 ekey net Access Scanner

- Weather resistant suitable for inside/outside installation and usage
- Scanner capacity ranges between 40-small, 200-medium, 2000-large fingerprint templates with 1-to-many matching algorithm
- Scanner extracts minutiae of the fingerprint by swiping it over the line-sensor
- Single/Dual authorization security level per scanner where a single finger, two fingers of the same person, or two fingers from two different users are required to identify a user.
- Scanner is available in two mounting options:

5.1.1 ekey net Access Scanner – Product Specification

<table>
<tr>
<th colspan="2">DETAILS</th>
<th>WALL MOUNT SCANNER</th>
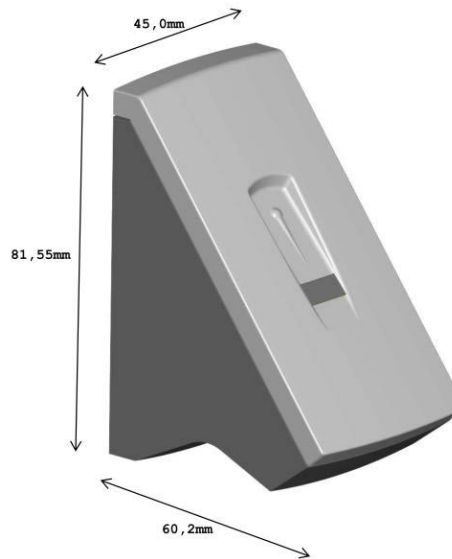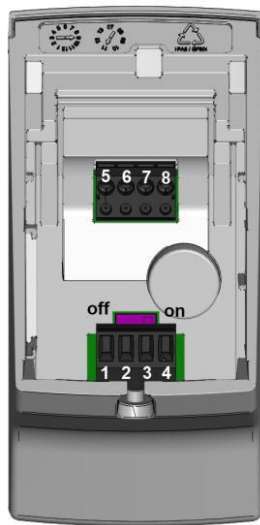<th>INTEGRA ENHANCED SCANNER</th>
</tr>
<tr>
<td rowspan="17">PRODUCT SPECIFICATION</td>
<td>ekey home Product Image</td>
<td colspan="2"></td>
</tr>
<tr>
<td>Biometric Features</td>
<td colspan="2">False Acceptance Rate (FAR) = 1.0 x 10^{-7}
False Rejection Rate (FRR) = 1.5 x 10^{-2}</td>
</tr>
<tr>
<td>Sensor Technology</td>
<td colspan="2">radio frequency (RF) sensor (AuthenTec's)</td>
</tr>
<tr>
<td>User Management & Programming</td>
<td colspan="2">client/server centralized computer program</td>
</tr>
<tr>
<td>Communication Protocol</td>
<td colspan="2">Encrypted RS485 bus over Ethernet using ekey converter LAN</td>
</tr>
<tr>
<td>Security</td>
<td colspan="2">Managed through encrypted and bounded RS485 bus with control unit.</td>
</tr>
<tr>
<td>Matching Speed</td>
<td colspan="2">1-4 seconds</td>
</tr>
<tr>
<td>Operating Mode</td>
<td colspan="2">Online node with server when Ethernet network is available;
offline mode when Ethernet network is not available</td>
</tr>
<tr>
<td>Size Of Memory</td>
<td colspan="2">40, 200, or 2000 fingerprint templates per scanner</td>
</tr>
<tr>
<td>Type Of Memory</td>
<td colspan="2">Flash, non-volatile (fingerprints templates are retained after power failure)</td>
</tr>
<tr>
<td>Software Update</td>
<td colspan="2">Operating software can be updated via RS485 bus over Ethernet</td>
</tr>
<tr>
<td>Color</td>
<td>Silver-metallic</td>
<td>Body is Black with top cover in stainless steel/white /gold</td>
</tr>
<tr>
<td>RFID Suppot</td>
<td colspan="2">13.56 MHz ISO 15693</td>
</tr>
<tr>
<td>Product Warranty</td>
<td colspan="2">24 month limited against product failure & manufacturing defects</td>
</tr>
<tr>
<td>Software Update</td>
<td colspan="2">Operating software can be updated via USB service adapter</td>
</tr>
<tr>
<td>Scanner Usage</td>
<td colspan="2">Fingerprint scanning for enrolment and access</td>
</tr>
<tr>
<td>Accessories & Options</td>
<td colspan="2">Refer to ekey Scanner Options at the end</td>
</tr>
</table>

5.1.2 ekey net Access Scanner – Installation Specification

	DETAILS	WALL MOUNT SCANNER	INTEGRA ENHANCED SCANNER
INSTALLATION SPECIFICATION	**Supply Voltage**	8-24VAC or 8-24VDC	
	Current draw – Idle mode (12VDC)	85mA	
	Current draw – Matching mode (12VDC)	90mA	
	Power Consumption (idle & matching)	~1W	
	Dimensions (WxHxD):	1 $^{3/4}$ x 3 $^{3/16}$ x 2 $^{3/8}$in (45x81.55x60.2mm)	Housing 1 $^{3/4}$ x 3 $^{1/2}$ x ¾ in (43.6 x 89 x 17.3 mm)
	Storage & Operating Temp.	-4° F to -167° F (-20° C up to 75° C)	-13° F to -158° F (-25° C up to 70° C)
	Humidity	Max. 95% relative, non condensing	Max. 95% relative, non condensing
	Protection Class	IP44	International Protection (IP54)
	Installation Height	at least 53 inches (135 cm) from scanner lower edge	At least 62 inches (155 cm) from scanner lower edge
	Mounting Type	Surface mount	Flush mount
	Control Cable Tip	4-pole push terminal RM 3.5	RJ45 Short body - only 4 pins are used (Cable supplied by ekey – type A;)
	Pin Assignment	Pin 1&2 data; Pin 3&4 power	Pin 4&5 data; Pin 7&8 power; Pin 1,2,3, & 6 not used
	Control Cable Wiring	CAT5 up to 300ft; 16AWG for longer runs; Max cable length 1000ft	

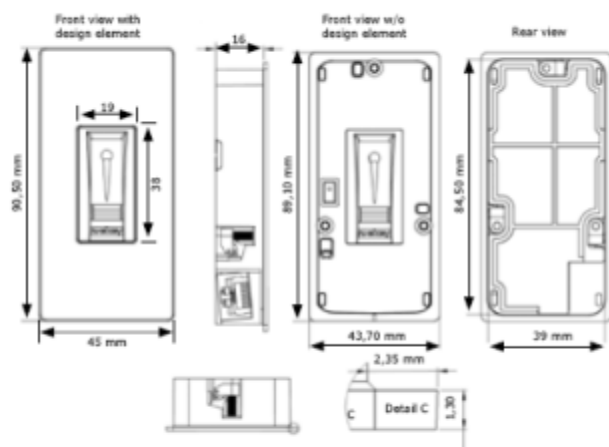## 5.1.3 ekey net Surface Scanner (AuthenTec sensor) - Measurements & Connection
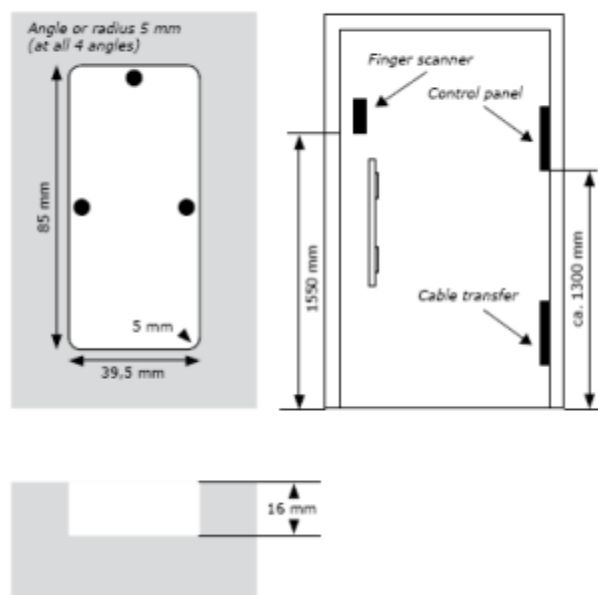
1 3/4 x 3 3/16 x 2 3/8in
(45x81.55x60.2mm)

Clamp #:	Signal description	Recommended cable color (ekey standard)
1	RS485 (Clamp 1)	green
2	RS485 (Clamp 2)	yellow
3	Power supply (Clamp 3)	brown
4	Power supply (Clamp 4)	white
Optionally only for model **ekey net FS REL**		
5	REL NO potential free	-
6	REL NO potential free	-
7	Input	-
8	Input	-

5.1.4 ekey net Integra Enhanced Scanner Measurements & Connection

Finger scanner dimensions

Front view with design element

Front view w/o design element

Rear view

Finger scanner milling dimensions

Angle or radius 5 mm (at all 4 angles)

Finger scanner

Control panel

Cable transfer

ekey home FS IN

			LiYY (TypA)
4	RS485 (Clamp 1)		green
5	RS485 (Clamp 2)		yellow
7	Power supply (Clamp 3)	8-24VDC or 8-24VAC	brown
8	Power supply(Clamp 4)		white

5.2 ekey net Control Unit

|	DETAILS	WALL MOUNT CONTROL UNIT	INTEGRA CONTROL UNIT	MINI CONTROL UNIT	EXTENSION CONTROL
PRODUCT SPECIFICATION	ekey net control unit product Image				
	Color	White	Stainless steel	Black	
	Display	2-digit seven-segment-display		1 LED two colored	
	Setup	ekey net admin software (over Rs485/LAN)			
	Product Warranty	24 month limited against product failure & manufacturing defects			
	Inputs	n/a	One digital		n/a
	Type of Memory	Flash, non-volatile (settings and parameters are retained in case of a power failure)			
	Number of relays	3 relay [iii]	2 relays [iv]	1 relay [v]	3 relay
INSTALLATION SPECIFICATION	Dimensions (WxHxD):	$7^{1/16}$ x $4^{5/16}$ x $1^{5/8}$ in (180 x 110 x 41mm)	11/16 x $10^{11/16}$ x $1^{1/8}$ in (18 x 272 x 29mm) [vi]	$2^{3/8}$ x 1 ¾ x 1 in (60 x 45 x 25 mm)	
	Humidity	Max. 95% relatively			
	Installation	Surface mount or on DIN rail 1 $^{3/8}$ in (35mm)	Flush mount recess	Surface mount or on DIN rail 1 $^{3/8}$ in (35mm)	
	Power Consumption	1W	0.5W	~ 1W	
	Connection	Pressure clamp	Terminal block		
	Protection class	IP31	IP40 (front side)	IP20	
	Operating temperature	-20°C to +70°	-40°C to +85°C		
	Supply voltage	9-12VAC or 9-12VDC	8-24VAC or 8-30VDC		

[iii] Wall mount control unit has 3 relays each relay is Dry Contact (Form C) switch – consist of Common (C), Normal Open (NO), Normal Close (NC). Each relay has the capacity to switch up to 250VAC/5A resistive or 30VDC/5A resistive

[iv] Integra control unit has two output relays (solid state). Each has the capacity to switch up to 42VDC or VAC / 2A. each configured by jumper. Relay #1 is Single Pole Single Throw (SPST) is either dry contact or active contact where the power that flow through the relay is provided by the ekey integra control unit. Relay #2 is Dry Contact either Normal Open (NO) or Normal Closed (NC) with ekey control the circuit only

[vv] Min control unit has one relay output (solid state). It has the capacity to switch up to 42VDC or VAC / 2A

[vi] Integra control unit is available is different width and edges. Refer to ekey net specification manual, call (941) 782-1227, or email info@ekeyUSA.com for details.

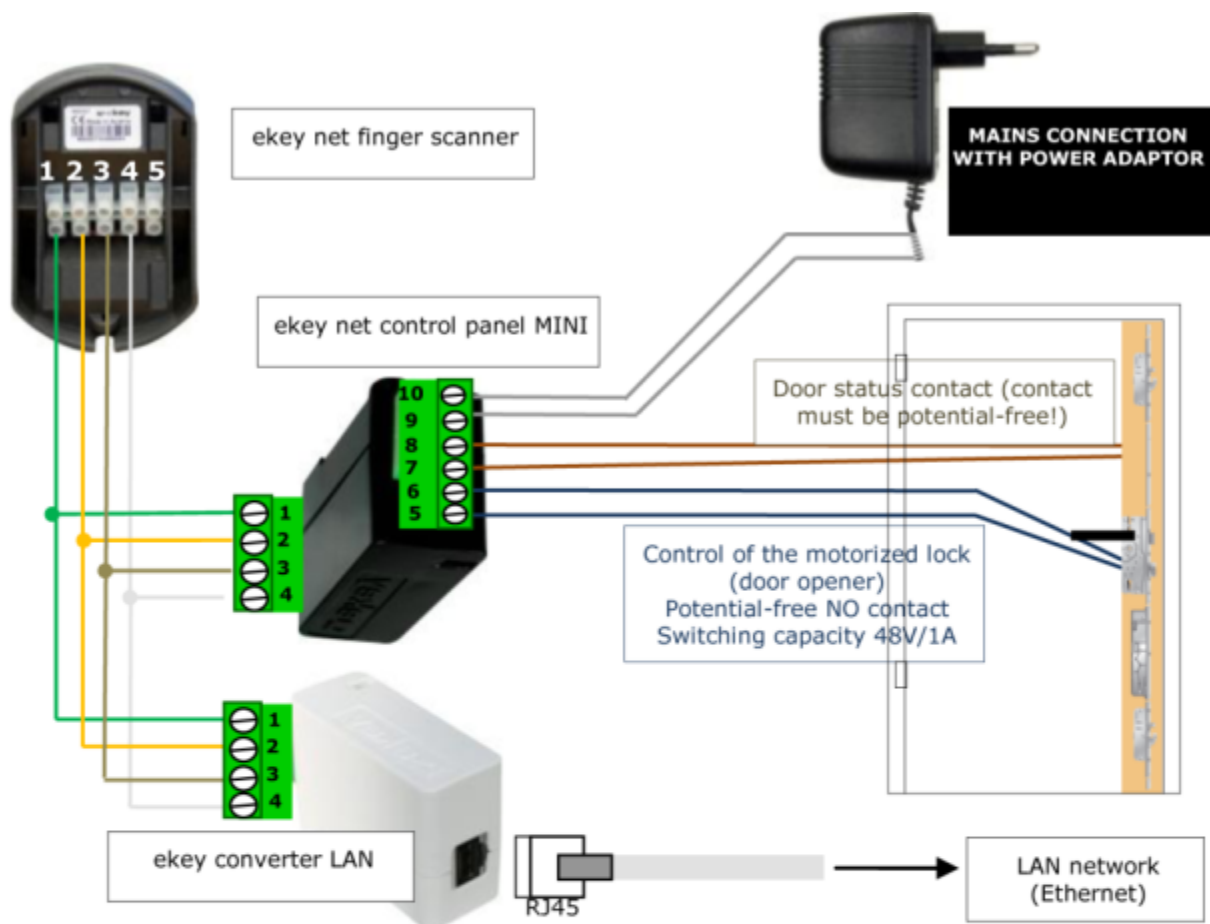## 5.2.1 ekey net Wall Mount Control Unit Wiring Diagram Layout
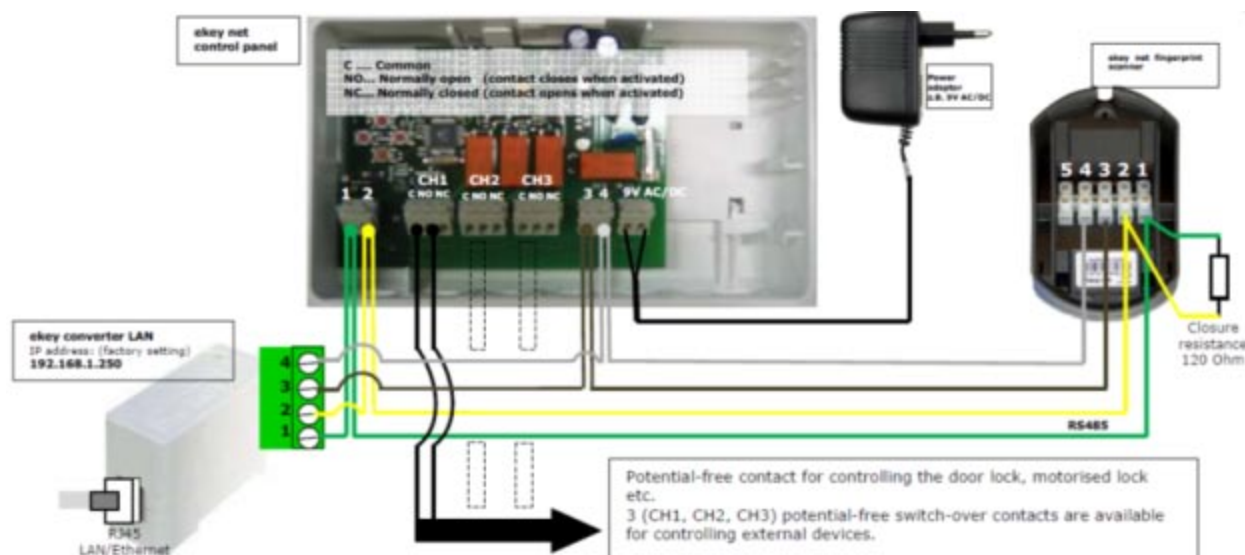
CLAMP	FUNCTION
1	RS485 data bus (Green color wire in cable A for the integra scanner)
2	RS485 data bus (Yellow color wire in cable A for the integra scanner)
Channel 1	Dry contact (not energized - Form C) switch #1 – Form C Relay Common (C), Normal Open (NO), Normal Close (NC)
Channel 2	Dry contact switch #2 – Common (C), Normal Open (NO), Normal Close (NC)
Channel 3	Dry contact switch #3 – Common (C), Normal Open (NO), Normal Close (NC)
3	Power supply for the scanner (Brown color wire in cable A for the integra scanner)
4	Power supply for the scanner (White color wire in cable A for the integra scanner)
9VAC	Main Power supply for the control unit

Dry contact means no voltage is provide by ekey system on the relay. Form C contacts are also called changeover contacts that have three contacts as follows:

1. (C) Common = common leg of the circuit
2. (NO) Normal Open = default relay is open meaning the circuit is open not complete; relay will close to complete the circuit when a valid fingerprint match is found. For example, this option is used when controlling door with electrical strike in Fail-Secure mode. In this scenario the door is closed when the lock has no power. When a valid fingerprint match is found, the relay is closed causing the lock to energized leading to the door to set open.
3. (NC) Normal Close = default relay is closed meaning the circuit is closed and complete; relay will open to break the circuit when a valid fingerprint match is found. For example, this option is used when controlling door with Magnetic Lock or electrical strike in Fail-Safe mode. In this scenario the lock requires power to magnetize and hold the door close. When a valid fingerprint match is found, the relay is opened causing the lock to lose its power and demagnetized leading the door to set open.
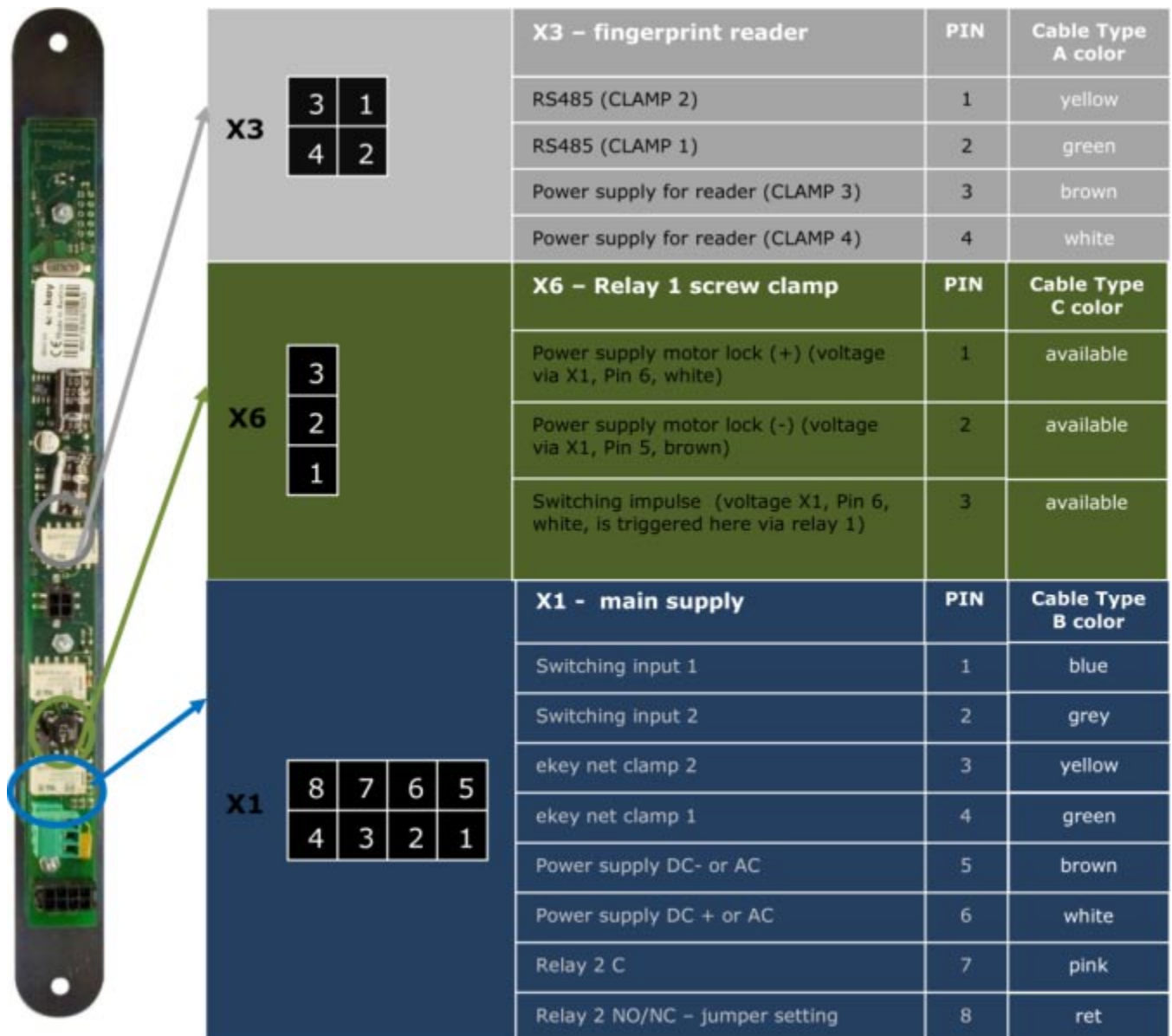
5.3 ekey net Min Control Unit Wiring Diagram Layout

ekey net finger scanner

MAINS CONNECTION
WITH POWER ADAPTOR

ekey net control panel MINI

Door status contact (contact
must be potential-free!)

Control of the motorized lock
(door opener)
Potential-free NO contact
Switching capacity 48V/1A

ekey converter LAN

RJ45

LAN network
(Ethernet)

PIN no.:	ekey net control panel Mini
1	RS485B (Clamp 1)
2	RS485A (Clamp 2)
3	-VCC (Clamp 3) switched
4	+ VCC (Clamp 4)

PIN no.:	ekey net control panel Mini
5	REL1C (relay contact 1)
6	REL1NO (relay contact 2)
7	IN1H (input H) = door contact
8	IN1L (input L) = door contact
9	-VCC or power supply 9V A/C)
10	+VCC or power supply 9V A/C)

5.4 ekey net integra Control Unit Wiring Diagram Layout

X3 – fingerprint reader	PIN	Cable Type A color
RS485 (CLAMP 2)	1	yellow
RS485 (CLAMP 1)	2	green
Power supply for reader (CLAMP 3)	3	brown
Power supply for reader (CLAMP 4)	4	white

X6 – Relay 1 screw clamp	PIN	Cable Type C color
Power supply motor lock (+) (voltage via X1, Pin 6, white)	1	available
Power supply motor lock (-) (voltage via X1, Pin 5, brown)	2	available
Switching impulse (voltage X1, Pin 6, white, is triggered here via relay 1)	3	available

X1 - main supply	PIN	Cable Type B color
Switching input 1	1	blue
Switching input 2	2	grey
ekey net clamp 2	3	yellow
ekey net clamp 1	4	green
Power supply DC- or AC	5	brown
Power supply DC + or AC	6	white
Relay 2 C	7	pink
Relay 2 NO/NC – jumper setting	8	ret

5.4.1 ekey net integra Scanner & Control Unit System – Door Install

ekey integra scanner with its low profile is designed to be installed on the door its self as well as on the wall next to the door. Specifying ekey integra system to be installed on the door directly requires choosing several items as applies below.   This applies to all ekey home, ekey multi, and ekey net.

1. integra Scanner

2. Design Element

3. Integra control unit

4. Power Supply

5. Door Transfer Kit (optional but recommended)

6. Individual Cables (Lock, Scanner, & Control)

5.5 ekey net Composite Control Unit Wiring Diagram Layout

By means of a so-called **ekey net composite control panel**, the number of switchable relays can be increased to **maximum 28 relays** (7 x ekey net CP DRM 4).

Composite control panel can only be made up of control panels using the same **ekey net Converter LAN**. The maximum number of 8 devices (1 finger scanner + 7 control panels) per RS-485-bus also applies in this case.

Either the **ekey net CP mini 1** or **ekey net CP mini 2** or **ekey net CP DRM 4** serve as the base for the composite control panel. Those can then be extended with the required **ekey net EM mini 3** (attention: only in combination with an above-mentioned control panel!) or ekey net CP DRM 4. Example with ekey net CP mini 2 and ekey net EM 3 - totally 20 available relays:
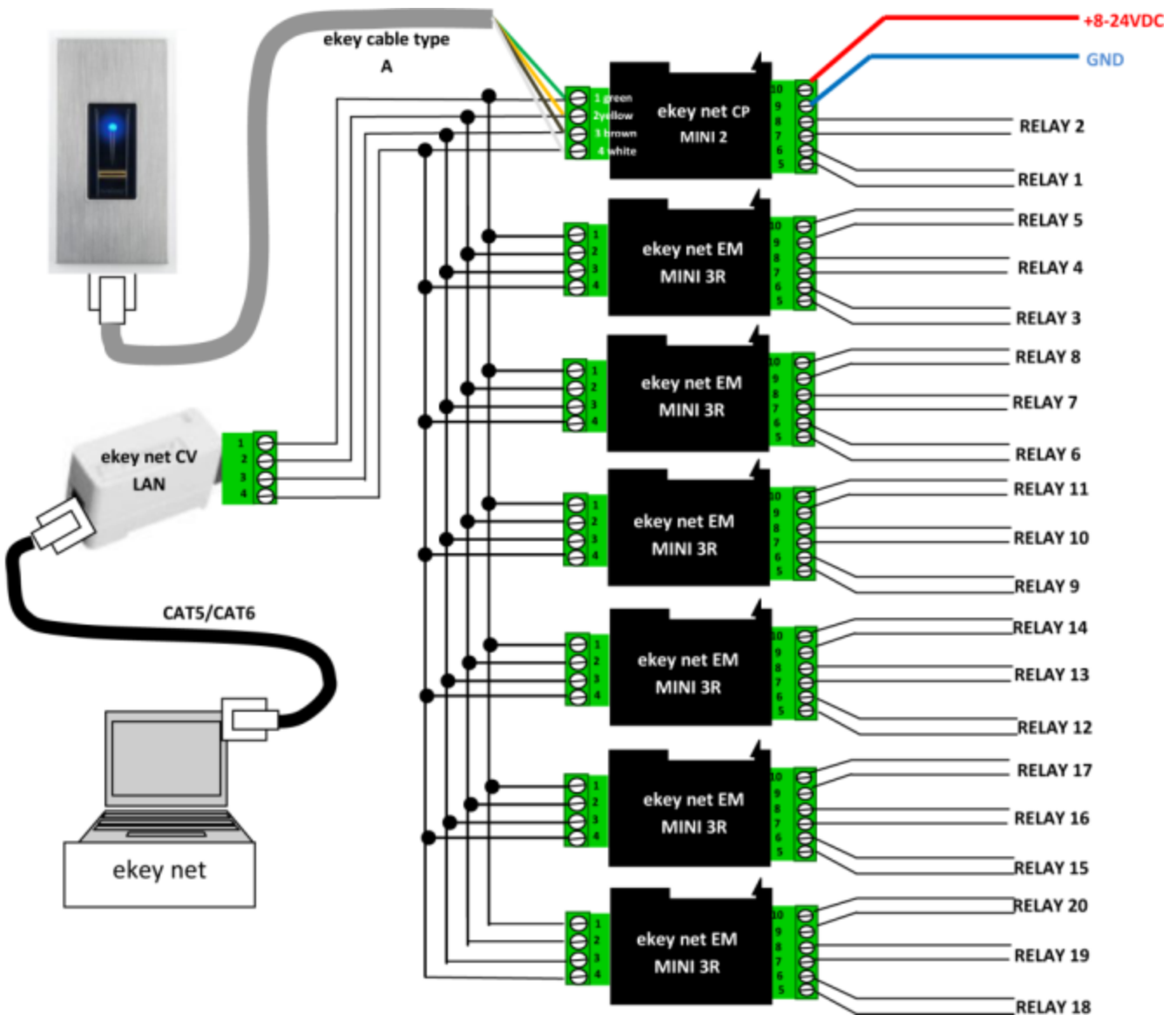
5.6 ekey net Converter LAN

The ekey net Converter LAN allows communication between ekey net Administration Software running on the computer and the ekey net devices (fingerprint scanners, control units, & Wiegand converters) connected by RS485 bus.

| Details	LAN Converter
PRODUCT SPECIFICATION	
ekey net LAN Converter Image	
Color	Black
Status Display	2 LED colored (green, orange, red)
Setup	"ekey CONVERTER LAN config" program
Product warranty	24 month limited against product failure & manufacturing defects
Number RS485 Devices	Up to 8 devices (scanners, control units, & Wiegand converters)
RS485 Type	Two core, half duplex
Number of relays	No relay
Type of Memory	Flash, non-volatile (settings and parameters are retained in case of a power failure)
Ethernet Protocols	LAN/RS485 (Ethernet UDP ports 58000-58016) NTP (Network Time Protocol) UDP123
INSTALLATION SPEC	
Dimensions (WxHxD):	2 $^{3/8}$ x 1 $^{3/4}$ x 1 in (60 x 45 x 25 mm)
Humidity	Max. 95% relatively
Installation	Surface mount or on DIN rail 1 $^{3/8}$ in (35mm)
Power Consumption	~ 1W
Connection	Terminal block
Protection class	IP20
Communication Cable Length	Up to 1000 ft for the data cable (clamp#1 & #2) when using CAT5e/CAT6 (UDP or STP) cable
Operating temperature	0°C to +70°
Supply voltage	8-18VAC or 9-24VDC

5.7 ekey net Converter Wiegand

The ekey net Converter Wiegand is used to send access information from ekey net system into any 3rd party access control system that support Wiegand. The data traffic is unidirectional from ekey net into the 3rd party "Wiegand" system and not the opposite direction.

DETAILS		WIEGAND CONVERTER
PRODUCT SPECIFICATION	ekey net Converter Wiegand Image	
	Color	Black
	Display	1 LED two colored
	Setup	ekey net admin software (over Rs485/LAN)
	Product warranty	24 month limited against product failure & manufacturing defects
	Inputs	No input
	Number of relays	No relay
	Type of Memory	Flash, non-volatile (settings and parameters are retained in case of a power failure)
	Wiegand protocols	26 bit Wiegand; Pyramid protocol; or User defined protocol
INSTALLATION	Dimensions (WxHxD):	$2^{3/8}$ x $1^{3/4}$ x 1 in (60 x 45 x 25 mm)
	Humidity	Max. 95% relatively
	Installation	Surface mount or on DIN rail $1^{3/8}$ in (35mm)
	Power Consumption	~ 1W
	Connection	Terminal block
	Protection class	IP20
	Operating Temp.	-20°C to +70°
	Supply voltage	8-24VAC or 8-30VDC

5.7.1 ekey net Converter Wiegand Wiring Diagram
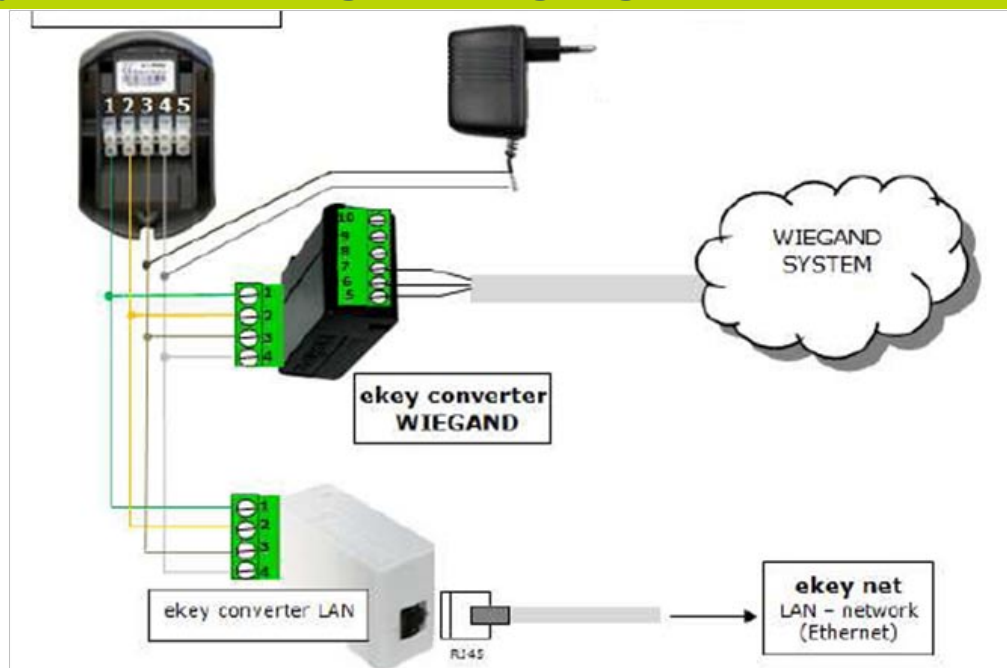
PIN No.	Description
1	RS485B (CL1)
2	RS485A (CL2)
3	-VCC (CL3) switched
4	+ VCC (CL4)
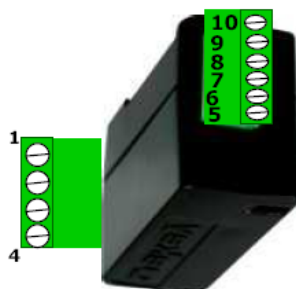
PIN Nr.	Beschreibung
5	WIEGAND D0
6	WIEGAND D1
7	GND
8	LED 1 (not in use)
9	- VCC
10	+VCC
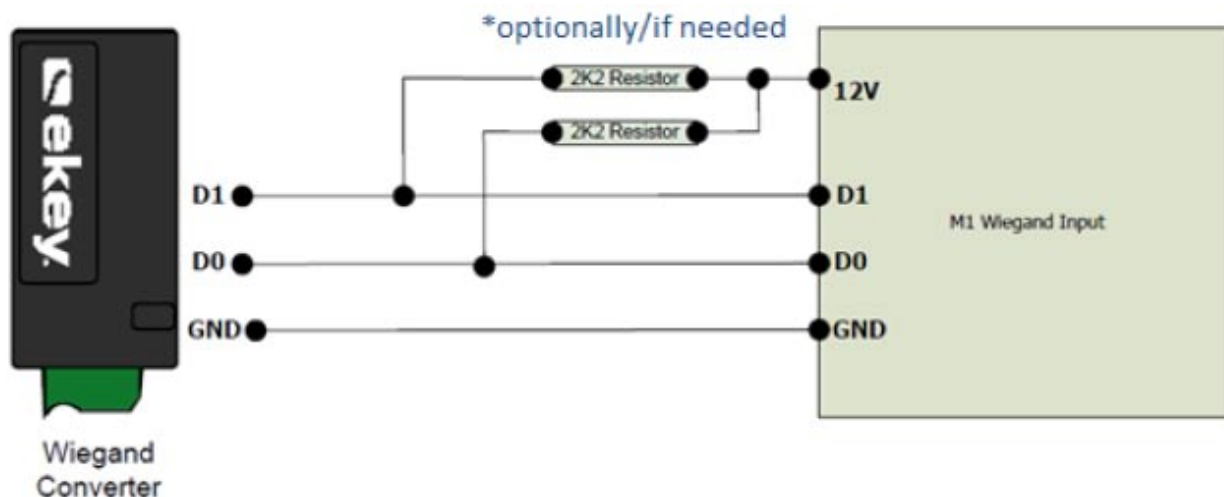
**Both resistors are required in some cases depends on Wiegand system being used.

5.8 ekey net Wiring

5.8.1 ekey net Wiring RS485 Bus Topology

The RS-485 bus must be <u>ring</u> shaped bus and not <u>star</u> shaped as per the illustration below.   In a ring shaped bus, all the device daisy-chained starting with the ekey Converter LAN on one end and the ekey net fingerprint scanner at the other end terminated with 120 ohm resistor. Branches and sub lines should be avoided, but if used its length should not exceed ~15 ft (5 m).
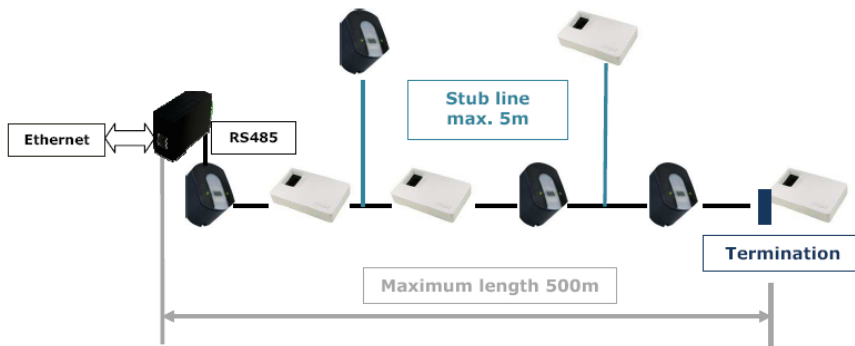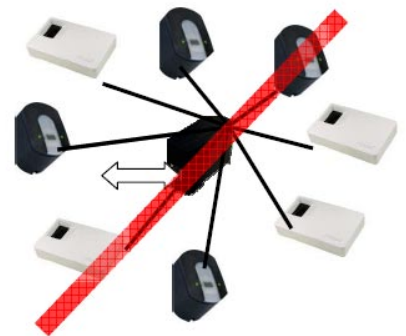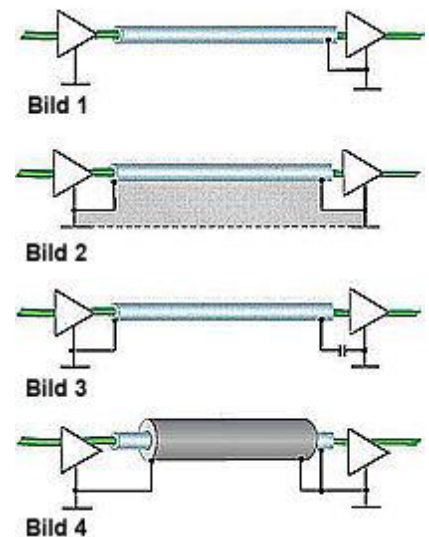

Figure 21 RS-485 Ring Shaped Bus Connection

Figure 22 RS-485 Star Shaped Bus Connection - NOT SUPPORTED

5.8.2 ekey net Wiring - Shielding

The type of shielding required depends primarily on the expected distortion on the ekey net wiring. In situations where electrical distortion is expected, shielding is highly recommended and is required based on the following scenarios:

- No shielding on ground: in situations with little distortion and short cable lengths (<10m). e.g. residential homes.

- It will be necessary to use a single-sided grounding (picture 1) in order to suppress electrical fields.

- Distortions based on a magnetic field can only be suppressed via a double-sided shielding (picture 2). Negative influences caused by ground loops are to be avoided!

5.8.3 ekey net Fingerprint Matching Options

Planning aid for ekey net

The planning of the ekey net system must take the number of users and the required features into account.

Finger scanner matching	CV LAN	Control panels	Finger scanners
The finger verification takes place in the finger scanner itself. **To be selected** for < 200 fingers in the system and when no time recording* is to be carried out.	max. **20 CV LAN** per terminal server PC	**max. 4 control panels** per CV LAN except for special solutions such as the Composite control panel (max. 7 control panels in this case)	**max. 4 finger scanners** **SMALL/MEDIUM/LARGE** **per ekey CV LAN** **A mixed operation of „ATMEL" and „AUTHENTEC"*** finger scanners on the same ekey CV LAN is **NOT possible.**

Server matching	CV LAN	Control panels	Finger scanners
The finger verification takes place in the server. **To be selected** for > 200 fingers in the system and also for < 200 fingers if time recording* is to be carried out.	max. **20 CV LAN** per terminal server PC	**max. 4 control panels** per CV LAN except for special solutions such as the ekey Composite control panel (max. 7 control panels in this case)	**max. 1 finger scanner** **MEDIUM/LARGE** **per ekey CV LAN** **A mixed operation of „ATMEL" and „AUTHENTEC"*** finger scanners on the same ekey CV LAN is **NOT possible.**

Definitions:

Finger scanner matching and server matching are 2 different settings available in the **ekey net** software.
Finger verifications should be carried out on the scanner when few users are registered in the system. When a lot of users are registerd in the system, and also if other external recording methods are carried out, then the verification should take place in the server.
All the entry records are saved in **ekey net**, no matter if finger scanner matching or server matching has been selected.

*„ATMEL" finger scanners: „AUTHENTEC" finger scanners:

5.9 ekey net 4.0 Software

ekey net software application is client-server architecture. The server side consists of software components that are installed on a computer designated as "ekey server" and they run as windows services. The client application can be installed on any workstation that can reach the "ekey server" machine either locally on the same LAN or remotely through VPN.

Users' fingerprint templates are distributed from the server to each scanner in the network based on the assigned access rights and rules of each user. During the enrollment process, each finger is assigned specific event to activate specific action such as switching a relay momentary for number of seconds, switching permanently on or permanently off, etc.

In case the commutation is interrupted between the scanner and the server, each system will continue to work. Each scanner will store its activity logs and later forward it when the communication with the server is restored.

5.9.1 ekey net 4.0 Supported Operating Systems

ekey net 4.0 is compatible with the following operating systems:
- Microsoft Windows XP Professional SP3
- Microsoft Windows Server 2003 SP1 (and SBS 2003)
- Microsoft Windows Server 2008
- Microsoft Windows Server 2008 R2
- Microsoft Windows Vista Home Premium SP1
- Microsoft Windows Vista Business SP1
- Microsoft Windows Vista Enterprise SP1
- Microsoft Windows Vista Ultimate SP1
- MS Windows 7 (all versions)

Note:
any virtual machines environment (e.g. VM-Ware) is not support

5.9.2 ekey net Software License

A software license is required to activate and use ekey net software. This requirement is introduced starting from ekey net software version 4.0 and onwards.

A License is required for each fingerprint scanner defined in the ekey net admin software. Control units and converters do not require any licenses.

A minimum of one license key is required for each project/installation. Each license key is ordered as a *"single license key"* or *"group licenses key"* for the same software level to activate a specific number fingerprint scanner(s).

The cost of the license depends on the number of licenses order together at the same time. The cost of the license key is on a declining sliding scale that decreases with the increase in the number of licenses ordered together as one group and at the same time. So ordering *one group license key* for 5 fingerprint scanners for the same project and at the same time is cheaper than ordering *5 single license keys* for 5 fingerprint scanners for the same project and at the same time.

A license key cannot be shared, installed, or split (group lice into more than one project/installation/computer. A group license key cannot be split into multiple licenses keys even if the intention is to activate the same number of fingerprint scanners.

The extent of the ekey net software functionality is determined by the license type being used and activated. There 3 level of ekey net software license:

- ekey net business license – full functionality no restriction
- ekey net light license – limited functionality with access control functionality (no integration)
- ekey net com license – limited functionality with integration functionality (no access control)

FEATURES/FUNCTIONS	LIGHT LICENSE	BUSINESS LICENSE
Access Control	Yes	Yes
Attendance list	Yes	Yes
Customer specified Actions and Events	YES	Yes
Easy-Mode	Yes	Yes
Enrolment via terminal	Yes	Yes
RFID	Yes	Yes
Time-controlled anti-pass back (min)	Yes	Yes
UDP Logging	Yes	Yes
Wiegand	No	Yes
CSV Logging	Only Positive	Yes
Basic settings	No (predefined)	Yes
Basic Settings adjustable	No (predefined)	Yes
Door-man mode(concierge mode)	No	Yes
ekey Reporting	No	Yes
E-Mail Notification	No	Yes
HTML Logging	No	Yes
Large Fingerprint Scanner 2000 templates)	No	Yes
ODBC(SQL) Logging	No	Yes
Time controlled operations	No	Yes
Number of time slots per time zone	12	31
Number of time windows/Zones	3	Unlimited
Calendar	1	Unlimited
Terminal groups	1	Unlimited
Terminal Servers	1	unlimited
User groups	1	Unlimited

5.10 ekey net System – Part Numbers

When choosing a particular ekey net system the following options need to be considered:

c. Scanner type (wall mount or integra), capacity (40, 200, 2000), color (black, white, accessories), and mounting accessories (surface mount, dry-wall, rough-in, box).

d. Interface and control (relay, Crestron, Wiegand);

DESCRIPTION	
SCANNER CAPACITY, TYPE, COLOR, & MOUNTING ACCESSORIES — Wall mount scanner (surface mount) • Available in Anthracite (black); silver-metallic • Scanner capacity 40, 200, 2000 fingerprint template • Mounts directly on the surface through special bracket (that is included) using two screws	
integra scanner (flush mount) • The scanner body itself is Anthracite (black) only. • Scanner capacity 40, 200, 2000 fingerprint template Color Options & Mounting Accessories**: • *Design Elements* – available in White, Brush Steel, or Golden colors (these snap over the scanner as decorative cover plate). • *Wall Trims* – available in Almond, Black, Brown, Ivory, or White (these are Decora Wall Plate with special cut to fit the integra scanner); also in stainless steel. • *Mounting Brackets* – integra scanner does not fit into wall mount single gang box. Special brackets are available depending on the substrate (drywall, studs rough-in, block, or directly into cut-in opening) where the integra scanner will be mounted. **** These are ordered separately. Refer to ekey integra Scanner Accessories for part numbers & details**	
CONTROL UNIT TYPE & RELAYS — Wall mount control (surface mount) • 3 relays (dry contact with Common, normal open/normal close) • Mounts directly on the surface through din rail bracket (that is included) using two screws	
Mini (DIN Rail mount) 1 relay solid state • Mounts directly on the surface through din rail bracket (that is included) using two screws	
Extended Control Unit (DIN Rail Mount) 3 relay. Works only when connected with ekey net CP mini 1 or ekey net CP mini 2 or ekey net CP DRM 4 to serves as the base for the composite control panel.	

DESCRIPTION

Integra control (flush mount) • 1 or 2 relay, configurable to be either floating or single ended; normal open or normal closed (through jumper; or normally closed (through jumper) • Mounts flush directly into the door in cut-in opening (frame is available in different sizes and edges. Call for details)	
ekey Converter • **Wiegand converter** • **LAN converter**	
ekey bit Atmel fingerChip **USB Finger Scanner – optional enrolment scanner for ekey net** **ekey bit 2.0 authentec** **USB finger Scanner allows – optional enrolment scanner for ekey net**	
ekey net RFID Reader USB RDR-7581AKU USB reader / enrollment station for ekey RFID cards and ekey RFID fobs	
Power adapter	

For Accessories & Options refer to the following sections
   📧 **ekey Wall mount Scanner – Options**
   📧 **ekey integra Scanner – Options**	

5.10.1 ekey net HW Wall mount Control Set – Part Numbers

ekey net system
*Advance access and networked system (requires computer)
suitable for multi-entry-location (unlimited scanners)*

Control Unit (3 relay) & Fingerprint Scanner Package

common items included in the package
#100326 net control unit wall mount (3 relays, LED 2x7 segments display, white), (HS Code 84719000)
#800091 power adapter(input 110 VAC, output 9 VAC), (HS Code 85044090)
#100340 LAN UDP converter - for ekey net only (Black) , (HS Code 84733080)

Package Part Number	Package Customization Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2-3RS	#101248 net scanner 2.0 integra - small (40 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2-3RS	#101390 net scanner 2.0 wall mount - small (40 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2-3RS	#101249 net scanner 2.0 integra - medium (200 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2-3RS	#101391 net scanner 2.0 wall mount - Medium (200 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2-3RS	#101250 net scanner 2.0 integra - large (2000 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2-3RS	#101392 net scanner 2.0 wall mount - large (2000 templates, silver-metallic), requires (SW license), (HS Code 84719000)
	Package Customization - RFID Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2R-3RS	#101251 net scanner 2.0 integra RFID - small (40 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2R-3RS	#101393 net scanner 2.0 wall mount RFID - small (40 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2R-3RS	#101252 net scanner 2.0 integra RFID - medium (200 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2R-3RS	#101394 net scanner 2.0 wall mount RFID - medium (200 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2R-3RS	#101253 net scanner 2.0 integra RFID - large (2000 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2R-3RS	#101395 net scanner 2.0 wall mount RFID - large (2000 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)

5.10.2 ekey net HW Wiegand Interface Set – Part Numbers

ekey net system
*Advance access and networked system (requires computer)
suitable for multi-entry-location (unlimited scanners)*

Wiegand Converter & Fingerprint Scanner Package

Common items included in the package
#100669 net Wiegand converter DIN-rail mount, (HS Code 84733080)
#800091 power adapter(input 110 VAC, output 9 VAC), (HS Code 85044090)
#100340 LAN UDP converter - for ekey net only (Black) , (HS Code 84733080)

Package Part Number	Package Customization Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2-WG	#101248 net scanner 2.0 integra - small (40 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2-WG	#101390 net scanner 2.0 wall mount - small (40 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2-WG	#101249 net scanner 2.0 integra - medium (200 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2-WG	#101391 net scanner 2.0 wall mount - Medium (200 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2-WG	#101250 net scanner 2.0 integra - large (2000 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2-WG	#101392 net scanner 2.0 wall mount - large (2000 templates, silver-metallic), requires (SW license), (HS Code 84719000)
	Package Customization - RFID Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2R-WG	#101251 net scanner 2.0 integra RFID - small (40 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2R-WG	#101393 net scanner 2.0 wall mount RFID - small (40 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2R-WG	#101252 net scanner 2.0 integra RFID - medium (200 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2R-WG	#101394 net scanner 2.0 wall mount RFID - medium (200 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2R-WG	#101253 net scanner 2.0 integra RFID - large (2000 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2R-WG	#101395 net scanner 2.0 wall mount RFID - large (2000 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)

5.10.3   ekey net HW UDP Interface Set – Part Numbers

<table>
<tr><td colspan="2">

ekey net system
*Advance access and networked system (requires computer)
suitable for multi-entry-location (unlimited scanners)*

</td></tr>
<tr><td colspan="2">

UDP Converter & Fingerprint Scanner Package (Crestron, Control 4, Savant, etc..)

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<tr><td colspan="2">

Common items included in the package
#100340 LAN UDP converter - for ekey net only (Black) , (HS Code 84733080)
#800091 power adapter(input 110 VAC, output 9 VAC), (HS Code 85044090)

</td></tr>
</table>

Package Part Number	Package Customization Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2-UDP	#101248 net scanner 2.0 integra - small (40 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2-UDP	#101390 net scanner 2.0 wall mount - small (40 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2-UDP	#101249 net scanner 2.0 integra - medium (200 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2-UDP	#101391 net scanner 2.0 wall mount - Medium (200 templates, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2-UDP	#101250 net scanner 2.0 integra - large (2000 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2-UDP	#101392 net scanner 2.0 wall mount - large (2000 templates, silver-metallic), requires (SW license), (HS Code 84719000)
	Package Customization - RFID Wall-mount and integra Fingerprint Scanner (40, 200, 2000)
NS-IN2R-UDP	#101251 net scanner 2.0 integra RFID - small (40 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NS-WM2R-UDP	#101393 net scanner 2.0 wall mount RFID - small (40 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NM-IN2R-UDP	#101252 net scanner 2.0 integra RFID - medium (200 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NM-WM2R-UDP	#101394 net scanner 2.0 wall mount RFID - medium (200 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
NL-IN2R-UDP	#101253 net scanner 2.0 integra RFID - large (2000 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
NL-WM2R-UDP	#101395 net scanner 2.0 wall mount RFID - large (2000 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)

5.10.4 ekey net Software License – Part Numbers

Software License - Business Version

Business License full function unlimited schedules, calendars, terminal groups, user groups, custom device configuration, email support, time-controlled ops, multi relay activate, & attendance list

Package Part Number	Description	Package Part Number	Description	Package Part Number	Description	
170001	1 scanner	170006	6 scanners	170011	11 scanners	
170002	2 scanner	170007	7 scanners	170012	12 scanners	
170003	3 scanner	170008	8 scanners	170013	13 scanners	
170004	4 scanner	170009	9 scanners	170014	14 scanners	
170005	5 scanner	170010	10 scanners	** Call for more scanners license		

Software License - Light Version

Light License has reduced functionality with 2 schedules, 1 calendars, terminal groups, user groups only

Package Part Number	Description	Package Part Number	Description	Package Part Number	Description	
171001	1 scanner	171006	6 scanners	171011	11 scanners	
171002	2 scanner	171007	7 scanners	171012	12 scanners	
171003	3 scanner	171008	8 scanners	171013	13 scanners	
171004	4 scanner	171009	9 scanners	171014	14 scanners	
171005	5 scanner	171010	10 scanners	** Call for more scanners license		

5.10.5   ekey net HW Wall-mount Scanner Components – Part Numbers

ekey net Individual Components

ekey net fingerprint Scanners

Package Part Number	Description - Wall-mount Fingerprint Scanners
101390	#101390 net scanner 2.0 wall mount - small (40 templates, silver-metallic), requires (SW license), (HS Code 84719000)
101391	#101391 net scanner 2.0 wall mount - Medium (200 templates, silver-metallic), requires (SW license), (HS Code 84719000)
101392	#101392 net scanner 2.0 wall mount - large (2000 templates, silver-metallic), requires (SW license), (HS Code 84719000)
	Wall-mounted Fingeprint Scanner with RFID option
101393	#101393 net scanner 2.0 wall mount RFID - small (40 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
101394	#101394 net scanner 2.0 wall mount RFID - medium (200 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
101395	#101395 net scanner 2.0 wall mount RFID - large (2000 templates, RFID, silver-metallic), requires (SW license), (HS Code 84719000)
	Wall-mounted Fingerprint Scanner with Internal Relay on board
101396	#101396 net scanner 2.0 wall mount w/relay - small (40 templates, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)
101397	#101397 net scanner 2.0 wall mount w/relay - Medium (200 templates, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)
101398	#101398 net scanner 2.0 wall mount w/relay - large (2000 templates, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)
	Wall-mounted Fingerprint Scanner with RFID and Internal Relay on board
101399	#101399 net scanner 2.0 wall mount RFID w/relay - small (40 templates, RFID, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)
101400	#101400 net scanner 2.0 wall mount RFID w/relay - medium (200 templates, RFID, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)
101401	#101401 net scanner 2.0 wall mount RFID w/relay - large (2000 templates, RFID, 1 relay, silver-metallic), requires (SW license), (HS Code 84719000)

5.10.6   ekey net HW integra Fingerprint Scanner Components – Part Numbers

ekey net Individual Components

ekey net fingerprint Scanners

Package Part Number	Description - intgera Fingerprint Scanners
101248	#101248 net scanner 2.0 integra - small (40 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
101249	#101249 net scanner 2.0 integra - medium (200 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
101250	#101250 net scanner 2.0 integra - large (2000 templates, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
	integra Fingeprint Scanner with RFID option
101251	#101251 net scanner 2.0 integra RFID - small (40 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
101252	#101252 net scanner 2.0 integra RFID - medium (200 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)
101253	#101253 net scanner 2.0 integra RFID - large (2000 templates, RFID, Rj45 short-body cable, stainless steel cover), requires (SW license, bracket & wall trim), (HS Code 84719000)

5.10.7 ekey net HW Common Components – Part Numbers

ekey net Common Components	
Part Number	**Description - Control Units**
100666	#100666 mini control unit (1 relay/1input, Black), (HS Code 84719000)
100667	#100667 mini control unit (2 relay/1input, Black), (HS Code 84719000)
100668	#100668 mini control unit (3 relay (extension module for composite control panel, Black), (HS Code 84719000)
100326	#100326 net control unit wall mount (3 relays, LED 2x7 segments display, white), (HS Code 84719000)
101164	#101164 net control unit DIN-rail mount with LCD (4 relay, white), (HS Code 84719000)
	Converters
100340	#100340 LAN UDP converter - for ekey net only (Black) , (HS Code 84733080)
100669	#100669 net Wiegand converter DIN-rail mount, (HS Code 84733080)
	RFID Components
100660	#100660 RFID USB enrollment scanner TRH-SR-100 (for ekey net, Black/grey)), requires (SW license), (HS Code 84719000)
101330	#101330 USB scanner RFID - enrollment (for ekey net & LOGON, RFID, RDR-7581AKU) , (HS Code 84719000)
100916	#100916 RFID-card (for ekey net onlywhite blank no printing) 13.56 MHz, ISO15693, (HS Code 84733080)
100658	#100658 RFID-key ring (for ekey net only, white with ekey logo) 13.56 MHz, ISO15693, (HS Code 84733080)
100662	#100662 RFID fob round (for ekey net only, black) 13.56 MHz, Chip: I-Code SLI ISO15693, Format: 34x43x5,5 mm, Farbe:Schwarz, Article: 70004, (HS Code 84733080)
	Power adapters
800091	#800091 power adapter(input 110 VAC, output 9 VAC), (HS Code 85044090)
100205	#100205 DRM power adapter 2DU (input 230AC, output 12VDC/2A) , (HS Code 85044090)

100658	
100662	

6 Bio-entry integrated ekey with Entry System

- Bio-entry from Holovision is an integrated ekey access control with an audio-visual entry system.

- Bio-entry is suitable for any entry location such as front doors, gates, garages, etc.

- Bio-entry consists of multiple sub-systems (fingerprint, camera, intercom, keypad, or door bell) integrated in small mounting box (wall-mount or pole-mount); the faceplates comes with various options and finishes such as Brushed Chrome or Oil Rubbed Bronze, etc..

- The Bio-entry is shipped with Back box, hardware, gasket, and instructions all fully assembled, wired, and ready for installation with the desired ekey fingerprint access control systems (ekey home and ekey net), and the desired intercom systems options (Crestron, Panasonic, Holovision, or Viking), and a wall mount color camera.

Bio-entry
integrated ekey with audio-visual entry system

Bio-entry Features & Functions

Details	Finger print interc om	Fingerprint keypad	Fingerprint intercom camera	Fingerprint intercom keypad camera Wall mount	Fingerprint intercom keypad camera Pole mount

6.1 Bio-entry – Part Numbers

Bio-entry **integrated ekey with audio-visual entry system**

Bio-entry Features & Functions				
Details	*Fingerprint intercom*	*Fingerprint keypad*	*Fingerprint intercom camera*	*Fingerprint intercom keypad camera Wall mount*	*Fingerprint intercom keypad camera Pole mount*
ekey	ekey home, ekey multi, or ekey net				
Mount Type	W = Wall			P = Pole	
Basic Finish	RB=Raw Brass	ORB= Oil Rubbed Bronze BC=Brush Chrome · BPW= Black Powder coat LAB=Light Antique · AA= Anodized Aluminum			
	many extra colors & Finishes is available upon request (extra cost & lead time)				
Camera	-		CC=Color Camera		
Intercom	IPAN= Panasonic comp. ITES2= Tel. Entry Sys. IVIK= Viking	-	ICR= Crestron IPAN= Panasonic compatible ITES2= Telephone Entry System IVIK= Viking IVOI= Cyberdata VoIP		
keypad	-	KAS= ASCII KCR= Crestron KST= Stand-alone KWG= Wiegand	-	KAS= ASCII KCR= Crestron KST= Stand-alone KWG= Wiegand	

These are custom build and special order items with long lead-time *Please Call (941) 782-1227 for product part number details and pricing*

7 ekey Fingerprint Scanner – Accessories

7.1 ekey Wall-mount Scanner - Weather Protection

- Part Number 100406
- The Weather Protection cap is made from stainless steel.
- It is used to give the surface mount fingerprint scanner extra protection against direct rain, snow, and sunlight when the fingerprint scanner is directly exposed to the environment condition.
- This cover is secured to the wall behind the scanner by 4 screws.

7.2 ekey integra Scanner – Decorative Cover Plate – Brushed Stainless

- Part Number 101254
- Decorative cover plate that snaps over the integra scanner
- It is used to give the integra fingerprint scanner brushed stainless look.

7.3 ekey integra Scanner – Decorative Cover Plate – White

- Part Number 101304
- Decorative cover plate that snaps over the integra scanner
- It is used to give the integra fingerprint scanner white color look**.**

7.4   ekey integra Scanner – Decorative Cover Plate – Gold

- Part Number 101303
- Decorative cover plate that snaps over the integra scanner
- It is used to give the integra fingerprint scanner gold color look**.**

7.5   ekey integra Scanner – integra Rough-in Bracket

- Part Number 101300
- Rough-mounting box
- Recess mounting box for use with integra scanner – flush mount

7.6   ekey integra Scanner – integra Metal Trim Ring

- Part Number 101383 Stainless Steel
- wall trim, screwless, stainless steel

7.7   ekey integra Scanner – integra Metal Trim Ring

- Part Number 101301 Stainless Steel
- wall trim, screwless, stainless steel
- mount bracket (box & alarm LED plate) (recess for block wall, stainless steel)

7.7.1 ekey integra Scanner – integra RJ45 Short Body Plug

- Part Number 800667
- RJ45 Short body plug for use with integra scanner

7.7.2 ekey integra Scanner – integra Control Unit RJ45 & CP35 Cables

- Part Number 100507 integra Control Unit RJ45-CP35 Cable
- Part Number 100526 integra Control Unit Open CP35 Cable
- For use with the integra flush mounted control unit

7.8 ekey Fingerprint Scanner Accessories - Part Numbers

Fingerprint Scanners Accessories

Part Number	Description - Integra Fingerprint Scanner Accessories
101254	#101254 decorative cover plate - design element (snap-on (decorative plate), stainless steel) , (HS Code 84733080)
101304	#101304 decorative cover plate - design element (snap-on (decorative plate), white coated) , (HS Code 73269092)
101303	#101303 decorative cover plate - design element (snap-on (decorative plate), golden) , (HS Code 84719000)
101300	#101300 mount bracket (box) (recess for block wall, metal) , (HS Code 49111090)
101383	#101383 wall trim, surface (screwless), stainless steel, (HS Code 73269092)
101302	#101302 mount bracket (box & wall plate) (recess for block wall, stainless steel)
101301	#101301 mount bracket (box & alarm LED plate) (recess for block wall, stainless steel) , (HS Code 73269091)
101147	#101147 weather protection cap (surface, stainless steel) , (HS Code 73269091)
Part Number	**Description - Wall-mounted Fingerprint Scanner Accessories**
101406	#101406 weather protection cap (wall mount, stainless steel) , (HS Code 73269091)